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China Pakistan Economic Corridor: from stocktaking to New Structural Economics driven strategy

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ABSTRACT

This paper assesses whether the China – Pakistan Economic Corridor (CPEC) makes economic sense for Pakistan, the extent of its progress, and how its developmental benefits can be maximized. Using a mixed-methods approach – including primary document analysis, 30 field visits in China and Pakistan, 144 interviews, and a survey of 209 respondents – it examines the structural reasons behind the slow industrial take-off of CPEC's Special Economic Zones. Applying the Growth Identification and Facilitation Framework of New Structural Economics, the study finds that while CPEC has delivered significant gains in energy and infrastructure connectivity, Pakistan has yet to fully leverage its comparative advantages. China emerges as an effective lead country whose experience can support Pakistan's industrial upgrading. The paper argues that Pakistan must reorient CPEC toward sectoral prioritization, targeted industrial collaboration, and better alignment with its factor endowments to achieve sustained structural transformation.

KEYWORDS

China–Pakistan economic corridor; New Structural Economics; industrialization; sector prioritization; growth identification and facilitation framework

JEL CLASSIFICATION

F14; O53; P47

1. Introduction

From being a star performer of development in the 1960s to confronting recurring debt, stagnation, and deindustrialization, Pakistan's economic trajectory carries profound implications for its people, the South Asian region, and the global economy. The central question this paper tries to explore is: Can CPEC serve as an effective platform for Pakistan's industrial revitalization and structural transformation?

The existing literature on CPEC has predominantly focused on geopolitics (e.g. Siddiqui and Zhang 2022), macroeconomic debt concerns (Malik 2020; State Bank of Pakistan 2023), and infrastructure expansion (Government of Pakistan, Ministry of Planning, Development & Special Initiatives 2023; Nasir and Kalim 2020), with relatively fewer studies offering a rigorous, theory-driven assessment of CPEC's industrial potential. Research on Special Economic Zones (SEZs) in Pakistan tends to highlight governance weaknesses, land acquisition delays, and regulatory fragmentation (Husain 2023; Z. Hussain and Waheed 2021), while broader work on late industrialization underscores the importance of aligning industrial policy with evolving comparative advantage (Lin

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2012a, 2012b, 2012c; Whitfield, Marslev, and Staritz 2021). However, there remains a notable gap in integrating these insights into a coherent analytical framework that links Pakistan's industrial constraints, CPEC's institutional design, and the structural mechanics of latecomer industrialization. This paper tries to fill that gap by conducting a theoretical and empirical reassessment of CPEC's industrial pillar.

This study reevaluates CPEC's potential within the framework of New Structural Economics (NSE), addressing three questions: (1) Why has Pakistan's industrial take-off under CPEC been slower than anticipated? (2) How can CPEC's SEZ be redesigned to attract sustainable investment and export-oriented industries? (3) What policy reforms are necessary to align CPEC with Pakistan's long-term growth strategy under fiscal and global competitive constraints?

Conceptually, the paper positions CPEC's SEZ agenda within NSE's emphasis on industries consistent with a country's evolving comparative advantage and applies the Growth Identification and Facilitation Framework (GIFF) to identify priority sectors where Pakistan's latent advantages can be converted into competitiveness through targeted cooperation with China. Empirically, the study draws on quantitative and qualitative evidence – including surveys, policy documents, investor interviews, and comparative country cases – to enable a multi-layered assessment of institutional constraints and opportunity structures within Pakistan's industrial ecosystem.

The contribution of this paper is threefold. First, it provides one of the few theory-grounded reassessments of CPEC's industrial dimension through the lens of NSE. Second, it bridges empirical implementation realities with industrial policy theory, offering evidence-based insights rarely captured in existing CPEC scholarship. Third, it develops a refined policy model for Pakistan's industrial cooperation with China, emphasizing governance coherence, sectoral prioritization, digitalization, and human capital as prerequisites for competitive SEZs.

The remainder of the paper is structured as follows. Literature review reviews the theoretical and empirical literature. Overview of CPEC: institutional design, composition, sectoral focus gives the landscape of CPEC. Research methodology and data analysis presents research methodology and findings from the primary data including performance of CPEC, perceptions, and challenges faced. Application of the growth identification and facilitation framework (giff) shows how to apply GIFF in the CPEC context. Policy recommendations and implications proposes prioritized and actionable policy reforms, implications, and finally the conclusion.

2. Literature Review

2.1. Insights into CPEC

A stark realization while perusing available literature was the lack of clarity and definition into what entails CPEC. Most commentators like Chen, Joseph, and Tariq (2018) and Javaid (2018) have talked about prospects but do not exhibit clarity into the extent of CPEC or what it entails. They refer to CPEC as 'a comprehensive development deal' - a vague brushstroke that could be interpreted in multiple ways. Consequently, the evidence for the success, or lack thereof, of the China-Pakistan Economic Corridor needs substantiation. In this paper, we adopt the definition of CPEC by W. Ali, Li, and

Raza (2016), which is that 'CPEC is not only an investment project between two countries but it is a network of opportunities for long-term integration in the whole region in order to increase trade and economic cooperation in the region.'

The existing academic research on CPEC is mostly descriptive, while rigorous empirical analyses of economic, social, and environmental outcomes remain limited. The most sizable discourse on CPEC seems to discuss its geo-strategic (Bhatti and Shahrukh 2023), security (Siddiqui 2023, Riaz Ahmad, Fernald, and Fernald 2020, Basit 2019) or geopolitical (S. Hussain and Khan 2017) implications. A considerable minority discusses a myriad of connected issues like ecological impacts (Duan et al. 2022), critical reception within Pakistan (Haider and Waqar 2020), its cultural dimension (Zhiyong et al. 2019) and its internal political and microeconomic dimensions (S. Hussain and Khan 2017; Naz, Ali, and Fatima 2018). Many take an altruistic approach to CPEC, focusing on its social benefits (Haq and Farooq 2016). Thorough and rigorous scientific evaluations of its overall performance and prospects are scant. Economic analyses are particularly rare.

Most studies that have evaluated CPEC's progress are dismayed by its potential. Garlick (2022) devotes extensive rhetoric to decry its economic potential as a sham to conceal a solely geo-strategic endeavor. He also shows how CPEC is not feasible, neither as a transit route nor for any potential industrial development in Pakistan, in contrast to the tropes surrounding CPEC, but in line with the performance visible on ground. Similarly, Chen, Joseph, and Tariq (2018) define it as 'a collection of infrastructure projects in Pakistan to develop Pakistan's shattered economy.' Srivastava (2011), Arvis, Marteau, and Raballand (2010) and Banomyong (2013) characterize CEPC as an integration of local economies into international value and supply chains, to produce positive multi-sectoral spillover effects.

On the other hand, a survey conducted in five cities of Pakistan by Aman et al. (2022), a case study of CPEC by Hyder (2019), and one by Rana (2022) confirm the impressive contribution of infrastructure projects and huge future potential of CPEC for economic and social development. A. H. Qureshi and Haider (2017) substantiate the valuable contribution of CPEC and the enabling environment it has created for future socio-economic development. While earlier studies (e.g. G. Ali and Malik 2022; Malik 2020; Nasir and Kalim 2020) have discussed aspects of CPEC's industrialization, few have explicitly connected it to structuralist frameworks or offered a holistic policy roadmap grounded in comparative advantage theory. This paper attempts to contribute to this strand of literature by offering a theoretically informed, data-driven, and policy-oriented analysis on CPEC.

2.2. Growth Identification and facilitation framework (GIFF) under NSE

Lin and Monga (2011) operationalized NSE through the *Growth Identification and Facilitation Framework (GIFF)*—a pragmatic approach to identify new industries and sectors for policy support. The framework involves a six-step process: first, identifying industries in dynamically growing countries with similar resource endowments but roughly double the per capita income; second, assessing whether these industries exist domestically and, if not, diagnosing the barriers; third, removing constraints to their emergence, including infrastructure, logistics, and regulatory bottlenecks; fourth, providing time-bound incentives to pioneer firms; fifth,

facilitating foreign direct investment in these sectors through strategic partnerships and SEZs; and finally, scaling up successful industries via horizontal and vertical linkages

This policy framework has been widely adopted to analyze and been put into real-world policy practice in many countries such as China, Benin, Nepal, Nigeria, Uganda, and Zambia (see, for example, Lin and Treichel, 2011; J. Lin and Xu 2016; Sichoongwe, Kaonga, and Hapompwe 2021; Xu and Hager 2017). Its success hinges on the state's capability to identify feasible industries, coordinate public and private actors, and ensure credible commitment to reforms. However, the GIFF analytical framework has never been applied to the analysis of Pakistan economy. This paper attempts to fill this gap. By providing a structured method for identifying sectors aligned with a country's evolving factor endowment structure, GIFF offers a clear analytical basis for examining how Pakistan can leverage CPEC for targeted industrial upgrading. In this context, CPEC's SEZs can be viewed as institutional instruments of *facilitation*: spatially concentrated policy environments designed to overcome infrastructure and coordination failures. If strategically aligned with Pakistan's comparative advantages determined by its endowment structure – such as agro-processing, textiles, light engineering, and mineral-based industries – SEZs can operationalize the GIFF's logic in a real-world policy setting.

2.3. Special Economic Zones: global experience and lessons

The global experience with SEZs provides valuable insights into how Pakistan can better design and implement its CPEC zones. Historically, SEZs have played a pivotal role in facilitating export-led industrialization, particularly in East Asia. China's own trajectory offers the most compelling evidence: starting with four pilot zones in the late 1970s (Shenzhen, Zhuhai, Xiamen, and Shantou), SEZs became laboratories for reform, innovation, and openness (Zeng 2016). They provided stable policy environments, modern infrastructure, and investor-oriented governance – features largely absent in Pakistan's current zones.

Comparative cases such as Vietnam's industrial clusters and Ethiopia's industrial parks also underscore the importance of sequencing and coordination. Vietnam integrated its SEZs with national export strategies and vocational training programs (Nguyen and Trinh 2018; World Bank 2019), while Ethiopia combined FDI attraction with industrial learning under targeted state guidance (Oqubay 2015; World Bank 2020). Both cases illustrate that SEZs succeed when embedded in broader industrial strategies – supported by coherent institutions, streamlined regulations, and continuous monitoring.

In contrast, many South Asian SEZs have failed to deliver sustained industrialization due to policy inconsistency, poor site selection, and lack of linkages with domestic supply chains (Farole and Akinci 2011). Pakistan's earlier attempts under the 2012 SEZ Act aimed to correct these deficiencies by offering fiscal and regulatory incentives, but implementation has remained uneven. The challenge is not the absence of incentives but the absence of *effective coordination* and *industrial clustering* that connects SEZs to domestic value chains. CPEC provides an opportunity to overcome this, provided Pakistan leverages China's institutional learning and implements GIFF-based prioritization. This paper specifically utilizes the NSE analytical framework to analyze CPEC's SEZs and explores how to make them more effectively.

In summary, the existing pertinent literature has important limitations: First, there is no comprehensive, theoretically grounded analysis of CPEC's industrial dimension within the framework of *New Structural Economics*. Existing works remain descriptive or policy-oriented without embedding CPEC's industrial policy in global development theory. Second, empirical studies seldom employ a mixed-methods design that triangulates field data, investor feedback, and policy analysis. Most rely on secondary data, leaving a gap in understanding ground realities of SEZ functioning. Third, limited research explores the mechanisms of sector prioritization and industrial facilitation under fiscal constraints – a pressing issue as Pakistan faces IMF-imposed limitations on subsidies and tax incentives. This paper tries to avoid those limitations by applying NSE and GIFF to identify realistic industrial pathways for Pakistan; validates findings through field-level evidence and stakeholder interviews; and formulates a sequenced, fiscally viable policy roadmap for CPEC's industrial success.

3. Overview of CPEC: institutional design, composition, sectoral focus

CPEC, one of the six economic corridors of Belt & Road initiative (BRI), announced in 2013, connects Western province of China, Xinjiang with Coastal city of Gwadar in the south of Pakistan. The strategic geopolitical corridor connects the land and maritime routes of BRI. The Situational analysis of CPEC is based on the list of projects identified in the documented version of CPEC, as well as secondary data analysis and observations during site visits.

When CPEC was conceived in May 2013 four areas were prioritized: power sector, infrastructure, transportation, and Gwadar. Later, industry, agriculture, Science & Technology, Information Technology, Security, and Social sector were also added in CPEC 2.0.

Most of agreements were signed during President Xi's visit to Pakistan in 2015. Major projects identified under the initiative are shown in Figure 1.

3.1. Energy projects

The inclusion of new power generation capacity under CPEC has significantly enhanced energy supply reliability, reduced costs, and created new opportunities for industrial growth in Pakistan (M. E. Qureshi and Mirza 2020). Initially, projects generating 16,000 MW of electricity were planned, but the scope expanded, and the first phase eventually included power projects totaling 17,034.7 MW. Of these, 12,020 MW have been completed and are operational, 1170 MW are under construction, and 3844 MW remain on hold (CPEC Authority, Ministry of Planning, Development & Reforms, Pakistan 2024). As a result, energy-starved Pakistan has transitioned to an energy-surplus country.

3.2. Gwadar Port

Gwadar, Baluchistan, is the southern port marking the end point of CPEC in Pakistan and connecting Xinjiang to the warm waters of the Arabian Sea. On 18 February 2013, the Concession Rights were transferred from Singapore Ports Holding Co. to China Overseas Port Holding Company (COPHC). They commercially operationalized the port

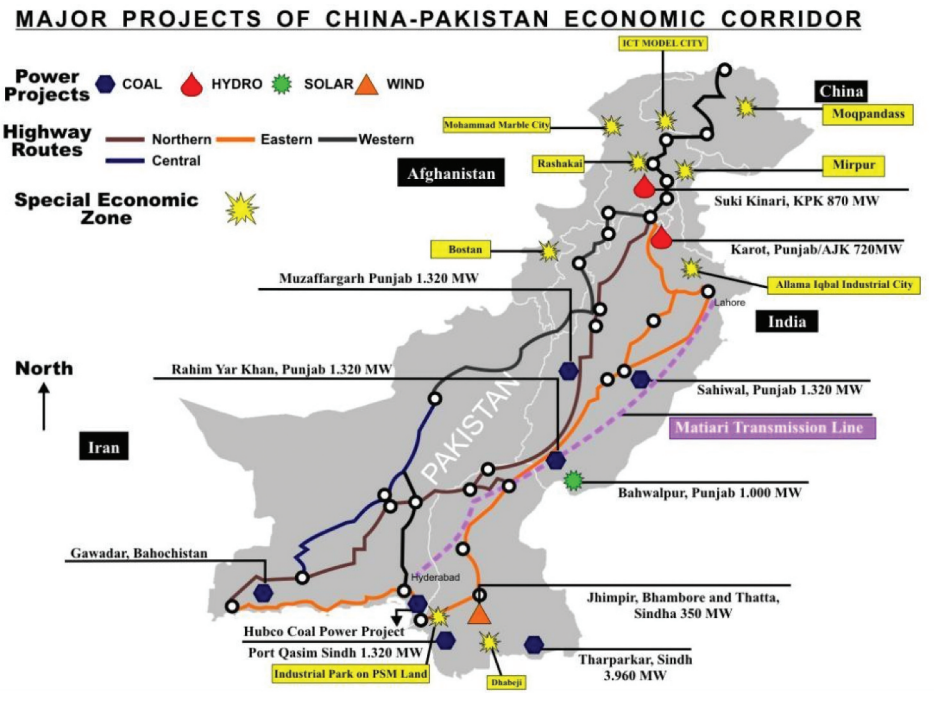

Figure 1. Mapping of CPEC projects. Source: Adapted from *China–Pakistan Economic Corridor: Prospects and challenges for Balochistan, Pakistan,* by M. Farooqui and S. M. Aftab, 2018, *IOP Conference Series: Materials Science and Engineering, 414*, 012046 (https://doi.org/10.1088/1757-899X/414/1/012046). Copyright 2018 by IOP Publishing.

in 2020 with 04 berths and capacity for handling two 50,000 ton vessels simultaneously. The author visited Gwadar to collect primary data for this study, after a gap of almost 11 years since an earlier visit in 2011. The transformation witnessed was undoubtedly a pleasant surprise.

In Gwadar Free Zone, Phase I is developed (60 acres), with power supply, treated water, Road & Telecom, waste treatment, drainage system and Security. More than 30 enterprises registered including banks, warehouses, fishery products processing, edible oil processing, pipe, furniture manufacturing, electric bicycle assembly, trade, and logistics. Development of Phase-II (2221 acres) is under process.

3.3. Transport and other projects

Work was speedily done in road projects while Digital Terrestrial Multimedia Broadcast and cross-border optical fiber cable project completed at an early stage of the initiative. 56% of the early harvest road projects are either completed or under construction while 44% are in pipeline. However, due to multiple reasons, Main Line (ML)-1 rail project is still a nonstarter, though efforts are under way for a breakthrough.

3.4. Special Economic Zones (SEZs) under CPEC

SEZs offer an easy way to provide a micro investment climate as an island cushioned from the woes. Nine designated SEZs are listed under CPEC, shown in Table 1.

The dynamics of all the four SEZs operationalized till date are different. Under CPEC, the first SEZ to hit the ground was Allama Iqbal Industrial City, Faisalabad, Punjab, spanning over 3200 acres of land, run by a State Owned Enterprise, Faisalabad Industrial Estate Development and Management Company (FIEDMC). The second SEZ under CPEC, Rashakai Economic Zone, KP Province, 1000 acres of land, is a Joint Venture between Chinese SOE, CRBC (91%) and provincial government's organization Khyber Pakhtunkha Economic Zone Management Company (KPEZMC) (9%), through a special purpose vehicle Rashakai Special Economic Zone Development & Operations Company, RSEZDOC. The third SEZ, Dhabeji, Sindh, 1500 acres, is a public private partnership project where land is leased out to a private developer. It is not operational yet, though development work is started. Bostaan Special Economic Zone, Baluchistan, the smallest of the four zones located in the least developed area, however, the expansion plan is underway.

3.5. Agriculture cooperation projects

The progress in this sector is rather slow till now. No mega projects in this very important sector are yet on the table. Projects under process include Establishment of the Center for Sustainable Control of Plant Pests and Disease (CSCPPD), Karachi, Sind, for Agriculture sector R&D collaboration, Establishment of Suspension Culture Plant at Foot and Mouth Disease Research Center, Lahore, Punjab, Establishment of FMD Free Zones and Animal Identification and Traceability System in Punjab, Royal Group (of China) Livestock Farm (animal husbandry and dairy products business) likely to complete a laboratory for Semen production in Lahore, Cultivation of Horticulture crops for export purposes (under B2B) (CMEC, Qingfa seeds), and Protocols for export of processed meat to China.

3.6. Science & Technology cooperation

The recent discussions between the two sides emphasized the need of science and technology cooperation. A Joint Working Group (JWG) established to expedite the

Table 1. Special Economic Zones under CPEC.

SR NO	PROJECT	STATUS
	Partly operational Projects	
1.	Allama Iqbal Industrial City	Phase I operational
2.	Rashakai Special Economic Zone	Phase I operational
3.	Dhabeji Special Economic Zone	Development work started
4.	Bostan Special Economic Zone	Phase I operational
	In-Pipeline Projects	
5.	ICT Model Industrial Zone	
6.	Industrial Park on Pakistan Steel Mill Land	
7.	Mirpur Industrial Zone	
8.	Mohmand Marble City	
9.	Moqpondass Special Economic Zone	

Ministry of Planning, Pakistan, https://cpec.gov.pk/..

project planning in this sector. Projects under consideration include Establishment of the China-Pakistan Joint Research Center on Earth Sciences (Climate Change, Natural Disasters, Sustainable Development, Ocean & Geology) in Quaid-e Azam University, Islamabad (HEC), Establishment of China-Pakistan Higher Education, Research Institute (proposal shared with China Academy of Higher Education (CAHE), Acquisition of Oceanographic Research Vessel to explore maritime resources along coastline of Pakistan (NIO), Establishment of Institute of Smart Semiconductor Technology (NIE), and Establishment of Silicon Solar Cells & PV Panel Fabrication Facility of 500 MW/annum (PCRET)).

A dedicated Joint Working Group has been established on Information Technology Cooperation under CPEC to strengthen bilateral cooperation in the IT industry and focus on the development of innovative and pragmatic China Pakistan digital corridor. This component of CPEC will become very important in near future. Digital Silk Road, announced as a subset of BRI, aims to develop a secure digital pathway for China. A Chinese group of companies is heading a consortium of telecom companies from Africa, Pakistan, and Hong Kong to install the Pakistan East Africa Connecting Europe (PEACE) cable in the Indian Ocean and the Mediterranean. The optic fiber project from Khunjrab to Islamabad is already completed. Its extension till Gwadar is underway. Once the optic fiber reached Gwadar, it will connect with the Pakistan & East Africa Connecting Europe (PEACE) optic cable network in Arabian Sea. Fiber optic cables will be laid alongside the new links to major national transport routes, connecting the port to the Pakistan's national fiber optic backbone for the first time.

The projects recommended in this sector include Expansion In Optical Fiber Cable (OFC), Deployment & Domestic Manufacturing, Data Centers Deployment And Digital Hosting Platform, Data G-sharing service (GSB), Blockchain Based Letter of Credit Documentary Transaction & Settlement Platform, AR/VR and Game Development Centers, and Smart IoT Devices & Micro-chips Domestic Production

4. Research methodology and data analysis

4.1. Research design and overall approach

This study employs a mixed-methods exploratory – explanatory design to assess the economic logic of the China – Pakistan Economic Corridor (CPEC) and to diagnose why its industrial pillar – including but not limited to Special Economic Zones (SEZs) – has underperformed. CPEC is treated as a multi-sectoral program encompassing energy, transport, digital connectivity, Gwadar port development, SEZs, agriculture and science & technology cooperation. The mixed-methods approach combines primary field evidence with document review and comparative benchmarking to connect policy intent, implementation processes, and industrial outcomes.

The approach is deliberately exploratory (to uncover institutional, governance, and perceptual constraints) and explanatory (to link these constraints to observable outcomes and to NSE/GIFF prescriptions). The study privileges triangulation: corroborating documentary evidence and official statistics with on-site observations, structured interviews, and a stakeholder survey so that qualitative insights and quantitative summaries validate one another.

Activity log for collecting primary data is given in Annex I. 30 site visits were conducted across Pakistan and China (SEZs, port and logistics sites, industrial clusters, and relevant provincial/state agencies). List attached as Annex II & III. 144 semi-structured, in-depth interviews with a purposive sample of stakeholders (federal and provincial officials, SEZ developers, Chinese counterpart officials and investors, bank and DFI representatives, industry associations, and technical experts). Interviewees were selected to ensure representation across public/private and federal/provincial divides. List attached as Annex IV. Furthermore, a survey using structured questionnaire including five-point Likert scale administered to stakeholders (209 usable responses), designed to capture perceptions of CPEC performance, incentive effectiveness, institutional coordination, and sector priorities. Secondary sources include official CPEC plans and progress reports, SEZ feasibility reports and provincial SEZA notes, BOI and Planning Commission material, IMF/World Bank policy notes, and relevant academic and policy literature on SEZs, industrial policy, and NSE.

4.2. Findings and discussion

4.2.1. Overview of data and analytical approach

This section presents findings derived from extensive primary research, including 144 in-depth stakeholder interviews and 209 validated survey responses analyzed through a five-point Likert scale. The respondents represented diverse categories of public and private stakeholders, including federal and provincial governments, Chinese diplomats, academia, think tanks, security agencies, and enterprises operating within or outside Special Economic Zones (SEZs).

The dual-source data allowed triangulation between institutional perspectives and enterprise-level experiences. The findings are organized thematically into three parts: (a) perceptions of CPEC's progress and performance (private sector), (b) perceptions of CPEC's progress and performance (public sector), and (c) identification of structural challenges impeding CPEC's industrial outcomes – particularly those affecting SEZ performance. The objective of this analysis is not only to interpret data patterns but also to identify underlying institutional and policy lapses. These findings then provide an empirical foundation for the Growth Identification and Facilitation Framework (GIFF) application in Application of the growth identification and facilitation framework (giff).

4.2.2. Private sector perception and performance analysis

The private sector's perception of CPEC was gauged using a structured Likert-scale instrument administered to 209 enterprises (Pakistani and Chinese). Table 2 summarizes the aggregated responses.

The data reveal that a large majority (49.3%) agreed that Phase I achieved its intended targets, while only 26.8% endorsed the success of Phase II. Most respondents recognized CPEC's role in industrial upgradation (52.2%) and parallel business development (55.1%), confirming the catalytic role of the initiative. However, skepticism surrounds government performance, with 78.4% attributing the slow pace of CPEC to domestic policy lapses rather than external constraints. Interestingly, a plurality of private sector respondents rejected narratives of CPEC

Table 2. Private sector opinion on CPEC's success and impact.

Questions	SD (%)	D (%)	N (%)	A (%)	SA (%)
Did Phase I of CPEC achieve results?	4.8	19.6	26.3	38.8	10.5
Is Phase II of CPEC successful?	7.2	35.4	30.6	22.0	4.8
CPEC led to industrial upgradation?	3.3	23.4	21.1	37.8	14.4
CPEC projects undertook CSR activity?	2.4	17.7	34.4	38.3	7.2
CPEC led to parallel Chinese projects?	4.3	17.7	23.0	47.4	7.7
How many stakeholders know about SSC?	3.8	24.4	40.7	26.3	4.8
How many stakeholders know about NSE?	3.8	20.6	32.1	38.3	5.3
Is CPEC needed for Pakistan?	1.4	4.8	8.1	34.0	51.7
Is Government responsible for slow pace of CPEC?	3.3	2.9	15.3	45.9	32.5
Is CPEC an imperialistic design of China?	15.3	29.2	28.2	22.0	5.3
Will CPEC lead to domination by Chinese companies?	9.1	29.7	20.6	30.1	10.5
Is CPEC a Development Support Program for Pakistan?	4.8	22.5	21.5	38.8	12.4
Is CPEC a Geostrategic tool for China & Pakistan?	2.9	2.9	14.8	48.8	30.6
CPEC projects skewed toward Chinese global plans?	8.1	35.4	20.1	27.8	8.6
Is CPEC creating a debt trap for Pakistan?	10.5	31.1	32.1	18.2	8.1

N=209, SD: Strongly disagree, D: Disagree, N: Neutral, A: Agree, SA: Strongly Agree.
Source: Author's fieldwork (2024).

being an imperialistic venture or a debt trap, with 44.5% disagreeing and 32.1% remaining neutral on the debt trap hypothesis. Over 85% of respondents declared CPEC essential for Pakistan's development, reflecting strong pragmatic support for its continuation.

4.2.3. Public sector perception: strategic versus developmental lens

While private enterprises evaluated CPEC on functional and economic criteria, the public sector exhibited a more strategic and security-oriented framing, as shown in Figure 2. The 122 public-sector respondents (including Prime Minister, Federal and Provincial Ministers, Senior Bureaucrats, Chinese diplomats, Think Tanks, and Academia) collectively reflected optimism tempered by structural awareness.

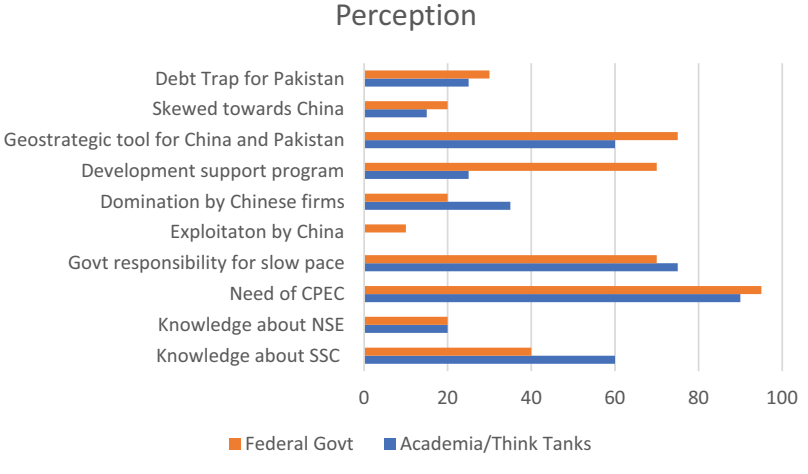

Figure 2. Public sector perception of CPEC . *Source: Author's fieldwork (2024).*

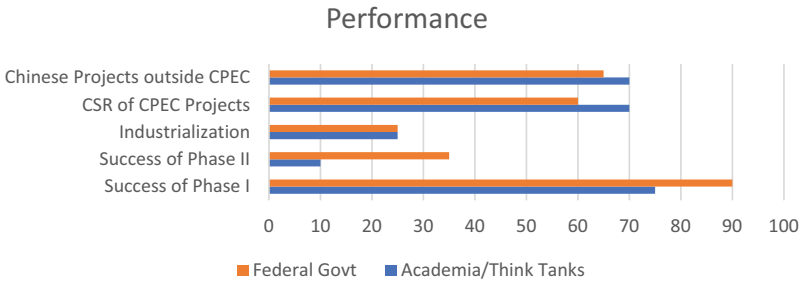

Figure 3. Perceived performance of CPEC by public sector Stakeholders. *Source: Author's fieldwork (2024).*

Most government respondents perceived CPEC as a geostrategic partnership benefiting both China and Pakistan (78%), while provincial authorities tended to view it as a development-support program rather than a global repositioning project. A notable insight was the conceptual gap between federal and provincial levels, revealing that the latter often lacked an understanding of CPEC's global economic logic under the Belt and Road Initiative (BRI).

Awareness levels were low: only 20% of public-sector respondents had any conceptual orientation toward New Structural Economics (NSE), despite it being foundational to BRI's design. About 60% demonstrated basic familiarity with South – South Cooperation (SSC) principles, again underscoring capacity gaps at the institutional level.

Figure 3 shows perceived performance of CPEC by Public Sector stakeholders. Almost 90% of federal-level respondents rated Phase I as successful, while only 40% expressed confidence in Phase II's industrial component. Many interviewees attributed the slowdown to bureaucratic inefficiencies, fiscal volatility, and weak project readiness rather than Chinese disinterest. A recurrent theme was missed industrial opportunities – as multiple Chinese delegations assessed Pakistan's potential for textile, chemicals, and construction materials but refrained from relocation due to institutional hurdles and poor facilitation.

4.2.4. Identification of Structural challenges

The data from interviews, field visits, and enterprise surveys highlight seven major categories of obstacles constraining CPEC's industrial outcomes. These include geopolitical volatility, policy inconsistency, institutional incapacity, weak planning, environmental concerns, fiscal bottlenecks, and governance lapses. The identified challenges were grouped into three broad categories. Figure 4 presents the hard infrastructure challenges, Figure 5 outlines the soft infrastructure challenges, while Figure 6 illustrates the policy-related challenges.

Respondents acknowledged that while Phase I resolved most hard infrastructure gaps (electricity, connectivity), SEZ development lagged due to incomplete last-mile infrastructure such as gas, rail access, and internal logistics. Over 70% of stakeholders emphasized soft infrastructure deficiencies: poor ease of doing business, fragmented authority, lack of skilled workforce, and high transaction costs. Institutional inertia and absence of data-driven facilitation mechanisms were cited as major deterrents to investment.

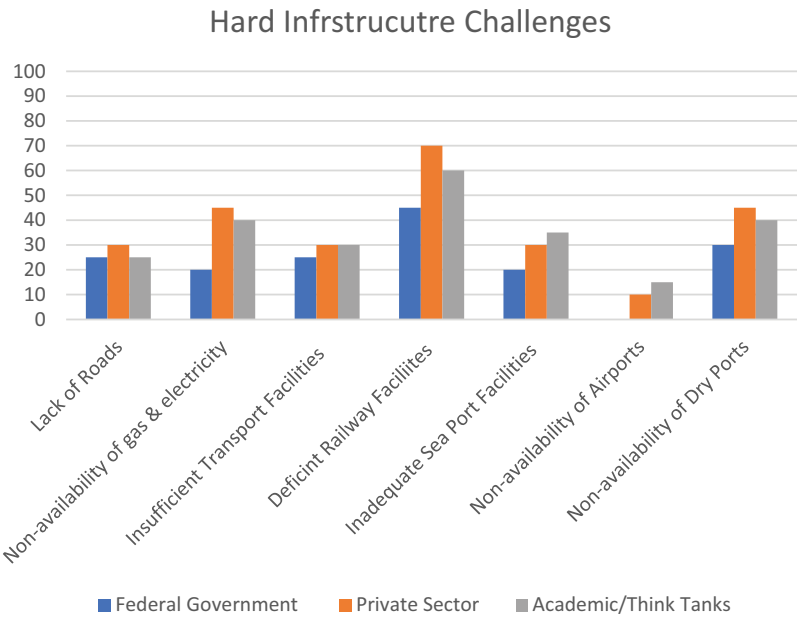

Figure 4. Hard infrastructure challenges faced by CPEC as identified by Stakeholders. *Author's fieldwork (2024)*.

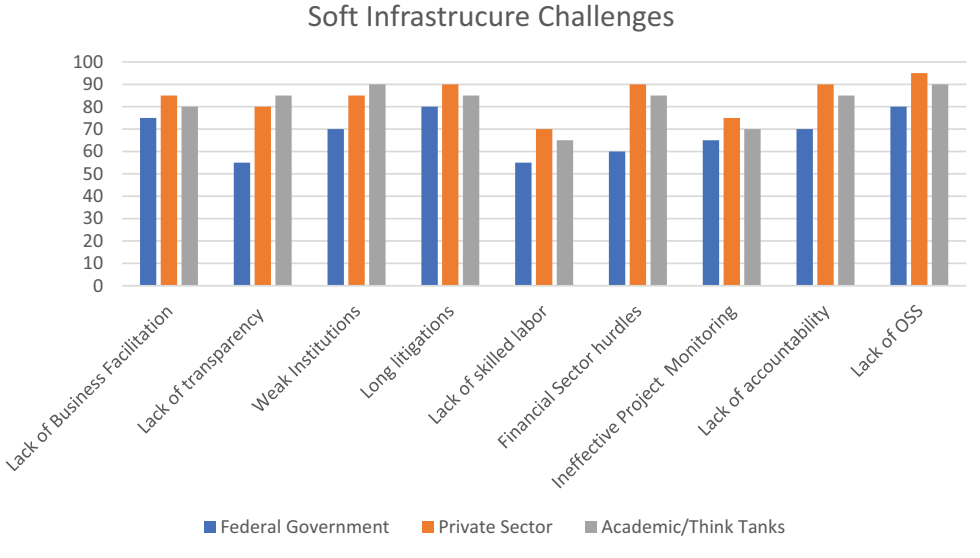

Figure 5. Soft infrastructure challenges identified by Stakeholders. *Source: Author's fieldwork (2024)*.

Respondents repeatedly underscored the absence of an industrial policy and sector prioritization framework aligned with CPEC's objectives. Without a structured approach to identifying industries for SEZs, project design often relied on political preferences rather than economic logic.

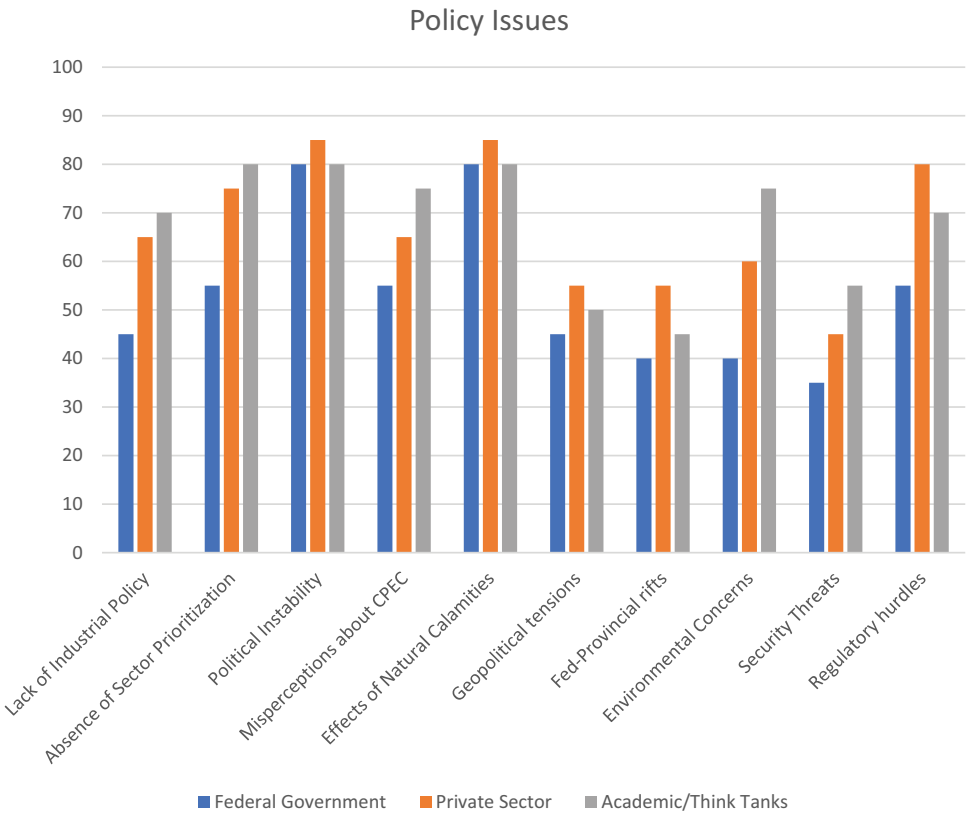

Figure 6. Policy issues affecting SEZ Performance. *Source: Author's fieldwork (2024).*

4.2.5. Converging narratives and emerging consensus

The combined evidence from 144 structured interviews and 209 enterprise-level survey responses presents a coherent picture of CPEC's progress, challenges, and stakeholder expectations across institutional and operational domains. Private-sector respondents demonstrated strong pragmatic support for CPEC, with nearly half affirming the success of Phase I, yet confidence in Phase II remained low due to persistent delays in SEZ development and industrial cooperation. A majority acknowledged CPEC's contribution to industrial upgradation and parallel commercial opportunities, while attributing the slowdown overwhelmingly to domestic governance lapses rather than external factors. Importantly, negative geopolitical narratives – such as accusations of debt-trap diplomacy – were broadly rejected, with 85% of respondents underscoring CPEC's necessity for Pakistan's long-term development. Public-sector respondents, by contrast, framed CPEC primarily within a geostrategic and diplomatic lens; federal-level actors viewed it as a mutually beneficial regional partnership aligned with BRI, whereas provincial stakeholders tended to interpret it as a development program, revealing significant conceptual and capacity gaps. Awareness of New Structural Economics – the intellectual foundation of BRI – was notably limited, underscoring institutional constraints in policy assimilation. While federal respondents expressed high confidence in Phase I, their optimism dropped

significantly for Phase II, reflecting concerns about bureaucratic inertia, fiscal volatility, and weak project preparedness. Triangulated findings across interviews, field visits, and survey data identify seven systemic constraints – including hard infrastructure gaps within SEZs, major soft infrastructure deficiencies, policy inconsistency, and institutional inertia – that collectively impede industrial relocation and SEZ performance. Overall, the data indicate that Pakistan has largely overcome physical bottlenecks through CPEC's early harvest projects, but the industrial outcomes expected in Phase II remain constrained by policy incoherence, limited institutional capacity, and the absence of a structured industrial development framework. This empirical diagnosis provides a robust foundation for the application of the Growth Identification and Facilitation Framework (GIFF) in the subsequent section.

Empirical findings confirm that CPEC's initial achievements have laid a solid foundation of connectivity and power infrastructure, yet Pakistan's industrial response remains muted. The data establish three major premises for subsequent analytical application of the Growth Identification and Facilitation Framework (GIFF). There are structural gaps resulting in the absence of sector prioritization and weak facilitation mechanisms. This hinders identification of industries consistent with Pakistan's latent comparative advantage. Moreover, limited capacity and coordination failures constrain the translation of Chinese interest into realized investments. Additionally, due to policy incoherence, ad hoc decision-making and frequent regime shifts deter long-term industrial collaboration.

These findings necessitate an evidence-based realignment of Pakistan's industrial policy with the New Structural Economics (NSE) perspective. Application of the growth identification and facilitation framework (giff) therefore applies the GIFF framework to identify priority sectors for Pakistan, benchmarked against China's experience as a lead country, and presents actionable policy measures to operationalize the industrial pillar of CPEC.

5. Application of the Growth Identification and facilitation framework (GIFF)

To come up with an endogenous economic growth plan for Pakistan, as proposed by NSE, it is imperative to understand the internal and external challenges for making any future policies. The interplay between reality (ground situation), practice (CPEC), and theory (NSE) dictates that Pakistan must create a conducive environment, but also ensure clear sector prioritization.

The way out is showcased, as with the flying geese model, through emulating those countries that took a dual-track approach (Lin) and adopted their comparative advantage. Pakistan's economic revival hinges on moving from consumption-led to production-led growth, requiring a structural shift toward manufacturing and high-value exports. CPEC provides a unique institutional and financial platform to facilitate this transition. However, despite extensive infrastructure development, industrial uptake – especially within Special Economic Zones (SEZs) – has lagged behind expectations. The underlying issue is not the absence of investment opportunities, but rather the absence of a systematic industrial policy framework aligned with Pakistan's comparative advantages.

The Growth Identification and Facilitation Framework (GIFF), proposed by Justin Yifu Lin under the New Structural Economics (NSE) paradigm, offers a pragmatic and evidence-based tool to guide such transformation. GIFF's logic rests on identifying industries consistent with a country's factor endowments and leveraging state facilitation to overcome coordination failures that constrain private investment.

Within the CPEC context, GIFF offers a policy lens to identify the most promising sectors by comparing factor endowments with successful countries, determine which industries can best integrate into regional and global value chains through China's industrial relocation, and guide SEZ planning and sectoral allocation under a targeted facilitation model that minimizes fiscal waste and ensures policy coherence. Therefore, applying GIFF allows Pakistan to transform CPEC from an infrastructure-heavy arrangement into a structured industrialization strategy, consistent with fiscal realities and competitive advantage.

5.1. Selection of benchmark countries (China & Vietnam) for emulation

Applying the simple yet effective methodology of GIFF to Pakistan entails the six steps delineated by Lin (2012). The first is setting a benchmark target from amongst similarly endowed but faster growing and more dynamic countries. To this effect we study countries which either exhibit a GDP per capita which is 100% to 300% greater than that of Pakistan's today and countries which exhibited the GDP per capita that Pakistan has today, twenty years ago. Analyzing data from the World Bank for countries with similar GDP per capita adjusted in 2017 international US dollars, an exhaustive list of 33 countries emerges, though most of these with different ground realities and comparative advantages when compared with Pakistan.

China also included in this list as a promising benchmark for Pakistan to emulate. Not only does it boast 3.34 times Pakistan's current GDP per capita, but it is also the most industrialized as measured by manufacturing as a percentage of GDP. On this metric, China and Vietnam emerge as the ideal benchmarks for Pakistan. If we look at the economic performance trajectory of China, Vietnam, and Pakistan, the interesting observation is that in 1985, both countries had GDP per capita lower than Pakistan, and in 2020, Vietnam has 63.1% and China 87.3% higher GDP per capita as compared to Pakistan.

In the light of the above discussion, the undisputed lead country for Pakistan is China, and next in line is Vietnam, which grew at a faster pace by catching up from China's exiting industry. China's economic ascent provides a clear demonstration of how the GIFF principles can catalyze transformation when systematically applied. In the 1980s, China identified labor-intensive sectors – such as textiles, toys, and consumer electronics – where it had comparative advantages similar to those of Southeast Asia. It created Special Economic Zones (Shenzhen, Zhuhai, Xiamen) that served as laboratories for market reforms, policy experimentation, and export promotion.

5.2. Revealed comparative advantage and existing industries

On this premise, let's have a deeper look into the evolving Revealed Comparative Advantage (RCA) of China, Vietnam, and Pakistan's exports. A comparison of export categories from 1995 to 2021 shows that China has continuously lost comparative advantage in footwear, textile & clothing, and hides & skins (International Trade Statistics Database 2025). With more capital accumulation and weaning off the labor strength, China's production basket is transforming quickly to more capital-intensive sectors.

The sequential transfer of this comparative advantage losing industry to other countries is not a new phenomenon. Japanese economist Kaname Akamatsu's Flying Geese Model for catching up with the industrialization of latecomer economies is taken up by Lin to explain the new global economic realities. On the verge of graduating from labor-intensive industry, China will free up around 100 million jobs, relocating to the upcoming developing economies (Lin 2012).

The flying geese concept recognizes that industrial activities migrate from one country to another sequentially and hierarchically, like the V-shaped formation of migrating geese. This process is driven by shifting comparative advantages, technological advances, market dynamics, and regional integration (Akamatsu 1962). By comprehending and strategically aligning with this concept, nations can position themselves to attract industries relocating from economies with a higher level of development and propel their industrial growth. Utilizing the concept of China's industrial chain, Pakistan has an exceptional opportunity to attract industrial relocation and boost exports (Gereffi 1999). Pakistan can establish Special Economic Zones and Special Technology Zones as part of the CPEC by capitalizing on China's labor-intensive industrial relocation. Vietnam is also losing comparative advantage in footwear, animal, raw material (International Trade Statistics Database 2025). In future, it will lose RCA in textile as well. Following Flying Geese pattern, this will become the exiting industry for Vietnam, and countries like Pakistan, if well prepared, can opt for these sectors as Catching-Up industries.

The above analysis recommends that Pakistan take advantage of industrial transfers from China to cease its industrial woes and establish a foothold in global value chains, create employment, and promote structural transformation. By adopting NSE principles, Pakistan can find industries with unrealized growth potential, encourage technological advancement, improve infrastructure, and promote sustainable economic growth (Lin 2012; Lin and Monga 2011). Keeping in view the above account of China and Vietnam, we see that both the lead countries losing RCA, inter alia, in Textile & Clothing and footwear, the labor-intensive industries. This means Pakistan needs to upgrade its traditional manufacturing base to get the maximum benefit from the lead and benchmark countries. Sector prioritization needs to be done on priority, hitherto a gap in Pakistan, and secondly it should complement the requirement of exiting industry from lead countries. China, an emerging economic giant, shedding off its light manufacturing has immensely benefitted countries like Vietnam, following the flying geese model and comparative advantage theory of NSE.

5.3. Pakistan's endowment structure and existing strengths

Statistics of 2021 show Pakistan's RCA in Textile, Hides and Skins, Vegetables and Consumer Goods (International Trade Statistics Database 2025). Furthermore, looking at endowments: Pakistan is the world's 10th largest labor market, fifth most populous country, fifth largest producer of cotton, fourth biggest freelance market and fourth largest producer of milk. It also has the 20th largest internet user base, and one of world's lowest costs of living (BOI 2022). It boasts a huge demographic dividend. With an estimated population of 300 m by 2050, the rapid population growth can help it break out of poverty. Age structure of Pakistan shows the biggest chunk of population is between 15 -64 years of age group. There is a dramatic increase of 85% since 2000, with 28.7% share in total population in 2017–18. Two million young people entering the labor force every year. Keeping in view the five categories of industries as per New Structural Economics perspective, labor intensive manufacturing like textile and footwear, is the exiting industry in China (Xiubao, Jie, and Dimitris 2015) and this is the same that this study concludes Pakistan must prioritize. Looking at the top ten choices of China for outward investment in agriculture and industry, Pakistan is marked for both Agriculture and Industry.

Matching the comparative advantages of Pakistan and the RCA-losing exiting industries from China and Vietnam, it transpires that Pakistan needs to prioritize its traditional manufacturing sector. Currently, Pakistan is stuck in a growth trap, as there is declining share of manufacturing industries in the GDP from 19.1% in 2007 to 13.0% in 2019. Over the same period large-scale manufacturing industries recorded a decline in growth from 8.7% to −0.3%. Whereas, the share of manufactured exports in total exports declined from 77% to 70%. Pakistan is now exporting much less than its imports mainly due to lack of competitiveness, lack of exportable surplus, and rise in the cost-of-doing business that has caused exceptionally high current account deficit as a percentage of GDP, which rose from 1.7% in 2016 to 6.3% in 2018 resulting into fast depletion of foreign reserve assets, thus culminating into currency crisis. When we look at the manufacturing sub sectors, Textile contributes 20% of manufacturing, while others include Food, Beverages & Tobacco; Coke & Petroleum Products; Pharmaceuticals; Chemicals; Non Metallic Mineral Products; Automobiles; Iron & Steel Products; Electronics; Leather Products; Engineering Products; and Wood Products. Alarmingly, all these sub-sectors of manufacturing are showing negative growth.

The state of industrialization or rather de-industrialization in Pakistan is expounded by multiple other challenges as enunciated by the primary and secondary data above. An analysis of the data shows bottlenecks at policy level, hard and soft infrastructure. It's crucial to understand that Pakistan's distinct socioeconomic environment comes with its own set of difficulties and concerns. When evaluating the viability of implementing any new strategic policy framework, factors including political stability, governance, institutional capability, and social dynamics must be taken into account (M. Ali 2020). Jaffrelot (2016) argues that the lack of local drive and heavy conditioning of the political elites to focus on either short-term electoral goals or the pressures exerted by IFIs has meant that there is no new 'paradigm' in Pakistan. The notion is further strengthened by the recent works of Ashfaq and Roofi (2023) which expose the dependence of the Pakistani polity on its elites, and the general lack of drive and direction that these elites manifest.

Table 3. Priority sectors.

Priority Rank	Sector	Rationale	CPEC Linkage
1	Agro-processing & Food Tech	Builds on strong agricultural base and Chinese tech collaboration	Gwadar & Rashakai SEZs
2	Textiles & Apparel	Existing clusters, low labor cost, export readiness	Allama Iqbal SEZ
3	IT & Digital Services	Youth skill base, minimal import intensity	CPEC Digital Corridor
4	Construction Materials	Local demand + regional export potential	Dhabeji SEZ
5	Mineral Processing	Untapped reserves; potential Chinese FDI	Bostan & KP SEZs

The utilization of the theoretical NSE framework to support the economy of Pakistan can be accomplished after taking into account the major hinderances and primary strengths, and subsequently utilizing CPEC as an instrument of development and change. As NSE gives the concept of 'One Centre, Three Fundamental Points' taking 'endowment structure' as the central part and the starting point. The three basic points of economic structures, distortions, and the optimal ways of transitions and reforms are all endogenous. In this context, Pakistan's demographic bulge, low labor cost, availability of land, access to international markets through multiple agreements, strategic geopolitical location, and inclusion in BRI through CPEC, can be built up to strengthen domestic market and provide an opportunity for Pakistan to come up with an endogenous growth model on the basis of its endowment factors along with it's RCA in textile. The economic development of Pakistan can benefit greatly from understanding and learning from China's recent economic change.

5.4. Priority sectors and facilitation mechanism under CPEC SEZs

To catch up, based on the above analysis, Pakistan's CPEC industrialization agenda should prioritize sectors according to their transformational potential and feasibility under GIFF principles. The following ranking given in Table 3, emerges from both data analysis and comparative benchmarking:

6. Policy recommendations and implications

Bottleneck as delineated by Lin, 2017 lies at the first level. Although as a developing country Pakistan is imbedded with poor infrastructure and weak institutions, the former is largely being addressed by CPEC launched SEZs and the latter can be overcome gradually with focus and determinations, especially within the silos created by the SEZs.

Based upon the endowment factors, lessons learnt from China, challenges faced by CPEC, interlinking theory and practice, the concepts of NSE including 'One center, three basic points,' and respective roles of the State, market, and society, are applied on the prioritized sectors. Pakistan needs to make a concise roadmap connecting CPEC with its economic development, in line with its comparative advantages, and keeping in view the constraints. To attract relocating industry from China, major focus needs to be on mapping the industrial landscape, supporting labor-intensive manufacturing, establishing SEZs, vocational training to increase labor productivity, Technology advancement based upon technology transfer, identifying modalities to engage third countries in CPEC, providing satisfactory security, and One stop shop for business conducive environment. List of prioritized policy proposals is as under.

6.1. Reframing and institutionalizing CPEC's industrial strategy

CPEC must now be understood as a structural transformation strategy rather than merely a collection of transport and energy projects. Establishing a clear, realistic perception of CPEC among international actors, national policymakers, public and private sector stakeholders, and think tanks is critical for defining achievable objectives and aligning expectations. Currently, the perception of CPEC remains uneven, oscillating between hype and narrow infrastructure interpretations, which risks misaligned strategies and fragmented implementation. Empirical evidence and the GIFF analysis indicate that although Pakistan has completed the foundational physical and institutional groundwork during CPEC Phase I, the second phase focused on industrial cooperation and economic upgrading could stagnate without targeted sectoral policies and coordinated facilitation mechanisms.

Institutionalizing CPEC's industrial dimension is therefore paramount. A Growth Facilitation and Identification Unit (GFIU) should be embedded within federal and provincial planning architecture under the joint oversight of the Ministry of Planning, Development & Special Initiatives, the Board of Investment (BOI), and the CPEC Authority or its successor entity. This unit would conduct periodic industrial potential assessments, identify sectors suitable for domestic development and foreign investment, and ensure that SEZ policies and incentives are aligned with sectoral priorities. By embedding GIFF principles into government planning, Pakistan can move from reactive project implementation toward proactive structural transformation, setting clear targets for industrial upgrading and long-term competitiveness.

6.2. SEZ governance, fiscal incentives, and industrial Finance

Special Economic Zones (SEZs) are central to CPEC's industrial strategy, providing controlled environments for investment, technology transfer, and cluster development. To maximize their impact, Pakistan's SEZs must evolve from standalone industrial estates into integrated production clusters connected to local SMEs, universities, logistics hubs, and research and development centers. International experience, particularly from China's Pearl River Delta and Vietnam's Hai Phong Industrial Zone, shows that cluster-based SEZs generate strong spillovers by embedding smaller enterprises into value chains. Each SEZ should therefore include a cluster development plan, mapping upstream and downstream linkages, identifying skill development partners, and integrating R&D support to enhance competitiveness.

Fiscal and financial reforms are equally critical. Current blanket tax holidays and uniform incentives are often underutilized or fiscally unsustainable. Pakistan should transition to performance-based incentives, conditioned on measurable outcomes such as export generation, employment creation, technology transfer, and environmental compliance. This approach mirrors best practices in China, Malaysia, and Bangladesh, where incentive efficiency is closely monitored and tied to measurable industrial performance.

Financial constraints remain a significant barrier for SEZ-based enterprises. To address this, a CPEC Industrial Finance Facility (CIFF) should be established as a blended finance mechanism, combining local bank participation, Chinese development finance, and sovereign guarantees for priority sectors. This facility can be modeled after

Vietnam's Development Bank and pilot schemes of China's CDB, providing targeted credit for export-oriented manufacturing. Complementarily, the State Bank of Pakistan should expand the Temporary Economic Refinance Facility (TERF) to SEZ enterprises, ensuring accessible financing at competitive rates. Together, these measures will provide both governance and financial foundations for sustainable industrialization.

6.3. Technology, skills, and soft infrastructure for industrial upgrading

Technology absorption and workforce capability remain critical gaps in Pakistan's industrial ecosystem. To address these, the National Industrial Policy (NIP) should explicitly integrate CPEC's second phase, embedding GIFF-derived sectoral prioritization to guide incentive allocation, infrastructure planning, and industrial upgrading. Clear sectoral value chain mapping will identify opportunities for import substitution, export expansion, and technological upgrading. Institutionalizing annual industrial competitiveness audits can further track progress and ensure policy responsiveness.

A Pakistan – China Industrial Technology Partnership (PCITP) should be established under the Joint Cooperation Committee (JCC), facilitating joint R&D centers in priority sectors such as textiles, agriculture, and electronics. This initiative would promote joint ventures for machinery manufacturing, process upgrading, and vocational training aligned with Chinese technical institutions. Co-locating vocational training institutes within SEZs, following the 'Industrial Park + Vocational College' model, will bridge skill gaps, enhance labor productivity, and develop SME management capabilities for local suppliers.

Digital facilitation and regulatory simplification are equally important. SEZ management processes – including licensing, land allocation, customs clearance, and fiscal incentive tracking – should be fully digitized and integrated into the Pakistan Single Window system. This will reduce transaction costs, enhance transparency, and create a business-conducive environment, complementing physical infrastructure and workforce development efforts.

6.4. Managing risks and ensuring sustainable integration

Sustainable industrialization requires proactive risk management across security, environmental, and social dimensions. Security remains a significant investor concern, particularly in Balochistan and Khyber Pakhtunkhwa. The current Special Security Division (SSD) mechanism should be complemented with smart surveillance, community engagement, and public – private cost-sharing, reducing the visible military footprint while maintaining investor confidence. Quarterly safety bulletins and transparent communication mechanisms will further strengthen investor assurance.

Environmental and social governance (ESG) integration is equally essential. Pakistan should mandate Environmental Impact Assessments (EIAs) for all SEZ-based industries, introduce Green Industrial Certification for enterprises adopting renewable energy or waste recycling, and encourage corporate social responsibility initiatives aligned with local education, health, and gender inclusion programs. These measures will reposition CPEC as a socially responsible, inclusive, and environmentally sustainable initiative, improving its global perception and long-term legitimacy.

Finally, Pakistan should leverage China's ongoing industrial relocation and regional value chains to enhance competitiveness. Mapping relocating Chinese industries and establishing joint venture facilitation cells within SEZs will attract investment in high-potential sectors. Developing supply chain parks near ports and border points, such as Gwadar and Khunjerab, will integrate SEZs into global value chains. Expanding CPEC connectivity under South – South Cooperation frameworks to Central Asia, the Middle East, and Africa will further embed Pakistan in regional and global trade networks, maximizing the developmental impact of the corridor.

Conclusion

CPEC under BRI has shown mixed results in its Phase I. GIF framework of NSE can be an effective tool for strategic planning of Phase II. Taking China as lead country, Pakistan can do the sector prioritization, attract FDI, support local industry, and optimize SEZs, to work upon its indigenous economic growth model. It is the first of its kind study in terms of breadth of qualitative data and a contribution to the meager economic research in the field, especially that which is constructive for industrialization and provides tangible policy takeaways as well as avenues for further empirical research. Also, the first attempt to see how New Structural Economics and its GIFF strategy can help CPEC and Pakistan to overcome the economic woes. It sets the stage for further research avenues to explore the replication of the same model of NSE implementation in other BRI countries.

In President Xi's own words, 'a strategic decision by our two governments and peoples to build a China-Pakistan community of shared destiny' surprised the world when it was included in 13th five-year plan of China (Wolf 2020). President Xi during visit to Pakistan in 2015 proposed to take all weather friendship to the next level of all-weather strategic partnership. China pulled out millions of its people out of poverty and now it has embarked upon the transformation to help other countries break the poverty trap.

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ANNEXURES

Annex I: Activity log for collecting Primary Data

Sr No	Activity	Participants
	First Round	
	Structured and Semi Structured Interviews (144)	Prime Minister Two Former Prime Ministers Speaker National Assembly Five Army Generals Chinese Diplomats Federal Ministers Federal Bureaucrats Provincial Ministers Provincial Bureaucrats Security Agencies Think Tanks/Academia Private Enterprises
	Survey I	Six Chinese Enterprises in CPEC SEZs
	Site visits, Pakistan	20 CPEC projects (capital city and all provinces)
	Second Round	
	Survey II: Likert Scale Data	209 Enterprises (Chinese & Local)
	Site Visits, China	Shenzhen and Huidong county

Annex II: List of Visits Conducted in Pakistan

Sr no	Visit site	Location	Distance From Capital City Islamabad (KM)
	CPEC Secretariate	Islamabad	0
	CPEC Desk	Peshawar, KP	188
	CPEC Desk	Lahore, Punjab	390
	Headquarter Pakistan Army's Special Security Division-North	Rawalpindi, Punjab	30
	Corps Headquarter, Pakistan Army	Peshawar, KP	188
	Headquarter Pakistan Army's Special Security Division-South	Gwadar, Baluchistan	2,028
	Special Protection Unit, CPEC	Lahore, Punjab	390
	Gwadar Port, Free Trade Zone	Gwadar, Baluchistan	2,028
	Coal energy projects	Tharparker, Sind	1535
	Wind Power projects	Jhimpir, Sind	1345
	Head office, Khyber Pakhtunkha Economic Zone Management Company	Peshawar, KP	188
	Rashakai Special Economic Zone	KP province	135
	Head office, Punjab Industrial Estate Development & Management Company	Lahore, Punjab	390
	Allama Iqbal Industrial City, Special Economic Zone	Punjab province	320
	Head office, Sind Economic Zone Management Company	Karachi, Sind	1412
	Dhabeji Special Economic Zone	Sind province	1550
	Service Longmarch private SEZ, a JV between Chinese and local company	Sind province	1500
	Challenge Apparel, private SEZ, a JV between Chinese and local company	Punjab province	390
	National Aerospace Science & Technology Park	Islamabad	0
	Head office, Special Technology Zone Authority	Islamabad	0

Annex III: List of Visits Conducted in People's Republic of China

Sr no	Location	Visit site
	Shenzhen, China	Headquarters of Tencent
		Headquarters of BGI
		Shenzhen Stock Exchange
		China Merchants Shekou Industrial Zone
		Shenzhen Museum
	Huidong County	Nanshan Ecological Valley Co., Ltd
		Huidong Potato Plantation
		Agriculture Technology Company
		Oyster Breeding Base

Annex IV: List of Interviews

Sr no	Organization	Designation
	Prime Minister Office	Prime Minister of Pakistan
	National Assembly	Speaker National Assembly Former Prime Minister
	Prime Minister Office	Former Prime Minister
	Ministry of Planning, Development and Special Initiatives	Federal Minister
	PM office	Special Assistant to PM
	Ministry of Petroleum & Natural Gas	Federal Minister
	Embassy of People's Republic of China, Islamabad	Commercial Counsellor
	Embassy of People's Republic of China, Islamabad	Consular (CPEC Focal Person)
	Consulate of People's Republic of China, Lahore	Consul General
	Pak China Investment Company Limited, Islamabad	Representative
	Pakistan Armed Forces	Corps Commander Peshawar former Defence Attache, Beijing China
	Pakistan Armed Forces	General Officer Commanding (GOC) Special Security Division North
	Pakistan Armed Forces	Special Security Division South, Gwadar
	Pakistan Armed Forces	Former National Security Advisor, Former VC National Defence University (retired)
	Special Protection Unit (SPU)	DIG
	Pakistan Customs Service	DG customs Intelligence
	Pakistan Customs Service	Chief Collector Customs
	Pakistan Customs Service	Collector Customs
	Pakistan Customs Service	Additional Collector Customs
	Home department	Additional Secretary Foreign Nationals Security Wing
	Ministry of Planning, Development and Special Initiatives	Federal Secretary
	CPEC Secretariate Ministry of Planning	Secretary CPEC
	CPEC Secretariate Ministry of Planning	Director
	CPEC Authority	Former Chairman CPEC Authority
	CPEC Authority	Former Chairman CPEC Authority
	Ministry of Finance	Federal Secretary
	Ministry of Science & Technology	Federal Secretary
	Federal Board of Investment (BOI)	Chairman
	Federal Board of Investment (BOI)	Chairman National Database and Registration Authority, Federal Secretary
	Federal Board of Investment (BOI)	Former Federal Secretary
	Foreign Office	Former Ambassador (r)Beijing China
	Foreign Office	Director General Foreign Service Academy, Islamabad.
	Foreign Office	Spokesperson Foreign Office, Former DHM China

(*Continued*)

Sr no	Organization	Designation
	PM office	Head of foreign affairs wing, PM office. Former CG Pakistan in U.S.A.
	Foreign Office	Additional Secretary, Former Consul General, Pakistan Chengdu, China
	Foreign Office	Director General China, Former Consular, Embassy of Pak, Beijing
	Foreign Office	Assistant Director China, former diplomat, Embassy of Pakistan Beijing
	Ministry of Commerce & Trade	Joint Secretary
	Federal Board of Revenue	Member Admin
	Federal Board of Revenue	Chief Commissioner
	Ministry of Water & Power	Federal Secretary
	Ministry of Maritime Affairs	Federal Secretary
	Ministry of Education and Vocational Training	Federal Secretary
	Ministry of Information Technology	Federal Secretary
	Ministry of Information Technology	Member IT
	National Vocational & Technical Training Commission, NAVTEC	Executive Director
	National Accountability Bureau	Director General
	Audit and Accounts	Director Lahore
	Frontier Works Organization, FWO	Construction Manager
	Ministry of Interior	Section Officer
	National Highway Authority	Director
	Ministry of Religious Affairs and Interfaith Harmony	Section Officer
	Trade Development Authority of Pakistan	Assistant Manager
	Federal Board of Revenue	Deputy Secretary
	Ministry of Commerce & Trade	Joint Secretary
	National Aerospace Science & Technology Park	Representative
	Special Technology Zone Authority	Member
	Punjab Industrial Estate Dev & Management Co	CEO
	Khyber Pakhtun khwah Economic Zone Management Company	CEO
	Azad Govt. of the State of Jammu and Kashmir (AJK)	Chief Secretary
	Balochistan	Chief Secretary
	Gwadar Port Authority	Chairman
	China Port Holding Company, Gwadar	Chairman
	China Airport Construction Company Gwadar	Representative
	Gwadar	Deputy Commissioner
	Chinese Enterprise in FTZ, Gwadar	CEO
	Gwadar Development Authority	MD
	Chief Secretary office, Sind	Additional Chief Secretary
	Energy Department, Sind	Provincial Secretary
	Department of Investment, Sind	Provincial Secretary
	Sind Economic Zone Management Company	CEO
	Department of Industries, Trade and Commerce, Punjab	Provincial Minister
	Chief Secretary office, Punjab	Chief Secretary
	Governor Punjab office	Principal Secretary to Governor
	Planning & Development, Punjab	Chairman Former Secretary Industries, Finance, & Agriculture
	Punjab Board of Investment and Trade	Former Chairman
	Punjab Board of Investment and Trade	Director
	Department of Agriculture, Punjab	Provincial Secretary
	Department of Industries, Trade and Commerce, Punjab	Provincial Secretary
	Punjab Information Technology Board	Director General
	Finance Department Punjab	Provincial Secreatry
	Punjab Education Department	Provincial Secretary
	Intelligence Bureau, Lahore	Director, Lahore offcie
	Punjab food authority	AFSO
	Punjab food authority	Assistant Food Safety Officer
	PPDB Energy Department Punjab	Head of PR & Marketing
	Government of the Punjab	Assistant Commissioner

(*Continued*)

Sr no	Organization	Designation
	Technical & Vocational Training Authority Punjab	Ex Additional Director General Academics Punjab Tevta
	Technical & Vocational Training Authority Punjab	Chief Operating Officer
	Punjab Mineral Company (PMC)	General Manager Support Services
	The urban unit, Punjab	Deputy Manager
	Ravi Urban Development Authority, Lahore	Director
	Ravi Urban Development Authority, Lahore	Assistant Director
	Chief Secretary Office, Khyber Pakhtunkha	Chief Secretary
	Department of Industries, Trade and Technical Education, Khyber Pakhtunkha	Provincial Minister
	Board of Revenue, Khyber Pakhtunkha	Senior Member
	Department of Industries, Commerce and Technical Education, Khyber Pakhtunkha	Provincial Secretary
	Department of Planning & Development, Khyber Pakhtunkha	Provincial Secretary
	Department of Planning & Development, Khyber Pakhtunkha	Special Secretary
	Khyber Pakhtunkha Information Technology (KPIT)	Provincial Secretary
	Khyber Pakhtunkha Board of Investment & Trade KPBOIT	Director
	China Rail and Bridge Company (CRBC)	Representative
	Lahore Overseas Chinese Association	President
	TCL, Pakistan	CEO
	St Fulin Group	Chairperson
	China Railway Group CREC, Islamabad	Representative
	Shanghai Electric, Tharcoal, Sind	Chairman
	Lahore Chamber of Commerce	President
	Lahore Chamber of Commerce	Former President
	Interactive Group of Companies, Islamabad	CEO
	Corvit, a Pakistani company	CEO
	NETSOL, a Pakistani company	CEO
	Institute of Corporate Governance, Karachi	CEO
	Nishat Chunnian, Lahore, a Pakistani company	CEO
	Service Longmarch	Chairman
	Federation of Pakistan Chamber of Commerce & Industries	Former Vice President
	Nestle Pakistan Ltd	Chairman, former Chairman Punjab Board of Investment & Trade
	Integrity Software Development, a Pakistani company	CEO
	My Impact Meter	CEO
	Women Chamber of Commerce	Representative
	Pakistan Association of Automotive Parts & Accessories Manufacturers	Representative
	Lahore University of Management Sciences (LUMS)	Rector
	Lahore University of Management Sciences (LUMS)	Associates Professor,
	Bahria Univeristy, Islamabad	Professor
	Center for Public Policy Forman Christian College, University, Lahore	Dean
	Garrison University Lahore	Vice Chanellor
	Foreign Office	Former Ambassador of Pakistan in Germany and High Command of India (retired)
	Golden Ring Economic Forum, Pakistani think tank	President
	University of the Punjab Lahore	Teacher
	The Punjab High school system	Coordinator
	Lahore Garrison University, Lahore	Associate Professor
	University of central Punjab	Assistant Professor
	Lahore School System	Coordinator
	University of Management and Technology, Lahore	Senior Officer
	Aitchison College	Teacher
	Peak Solutions group of Colleges Lahore	Principal
	University of Central Punjab	Head of department
	University of Central Punjab	Senior Lecturer

(*Continued*)

Sr no	Organization	Designation
	Lahore School of Economics	Administrator
	Center for Economic Research in Pakistan (CERP)	Senior Advisor
	LUMS University	Faculty/Associate Professor and Director
	UMT	Head of Department
	The University of Lahore	Registrar
	University of Management and Technology	Associate Professor

Annex V: List of Energy Projects under CPEC

Project Name	MW	Cost (US$ millions)
Sahiwal Coal-fired Power Plant	1320	1912.2
Coal-fired Power Plant at Port Qasim Karachi	1320	1912.2
China Hub Coal Power Project, Hub Balochistan	1320	1912.2
Engro Thar Coal Power Project	660	995.4
Quaid-e-Azam Solar Park (Bahawalpur)	400/600	520
Hydro China Dawood Wind Farm, Gharo, Thatta	50	112.6
UEP Wind Farm, Jhimpir, Thatta	100	250
Sachal Wind Farm,Jhimpir, Thatta	50	134
Three Gorges Second and Third Wind Power Project	100	150
Matiari to Lahore ±660 KV HVDC Transmission Line Project	4,000 MW Evacuation Capacity	1658
Karot Hydropower Project, AJK/Punjab	720	1720
HUBCO Thar Coal Power Project (Thar Energy)	330	497.7
SSRL Thar Coal Block-I 7.8 mtpa & Power Plant (2 × 660 MW) (Shanghai Electric)	1320	1912.12
HUBCO ThalNova Thar Coal Power Project	330	497.7
	12,020	
Under Construction Projects		
Suki Kinari Hydropower Project, KP	870	2000
Coal-Fired Power Project at Gwadar	300	542.3
	1170	
Under Consideration Projects		–
Kohala Hydropower Project, AJK	1124	–
Azad Pattan Hydropower Project, AJK/Punjab	700.7	–
Thar Mine Mouth Oracle Power Plant & surface mine	1320	–
Quaid-e-Azam Solar Park (Bahawalpur)	600	–
Western Energy (Pvt.) Ltd. Wind Power Project	50	–
Cacho Wind Power Project	50	–
	3844.7	
Grand Total	17,034.7	

Source: Ministry of Planning, Pakistan: https://cpec.gov.pk/project-details/90.

Annex VI: List of Gwadar Projects under CPEC

Sr No	Completed Projects
1.	Development of Port and Free Zone Phase 1 (60 Acres)
2.	Gwadar Smart Port City Master Plan
3.	Pak-China Technical and Vocational Institute at Gwadar
4.	Gwadar Eastbay Expressway
5.	New Gwadar International Airport
6.	Necessary facilities of fresh water treatment, water supply and distribution
7.	Pak-China Friendship Hospital with 200 beds
8.	1.2 MGD Desalination Plant
	In-Pipeline Projects
9	5 MGD Water Desalination Plant Gwadar
10.	300MW Coal-Fired Power Project at Gwadar
11.	Construction of Breakwaters
12.	Dredging of berthing areas & channels
13.	Fish Landing Jetty and Fishermen Boat Making Industry on West bay
14.	Gwadar Smart Environment Sanitation System and Landfill Project

Source: Ministry of Planning, Pakistan, https://cpec.gov.pk/.

Annex VII: List of Transport Projects under CPEC

Sr No	PROJECTS	LENGTH (KM)
	Completed Projects	
1.	KKH Phase II (Havelian - Thakot Section)	120
2.	Peshawar-Karachi Motorway (Multan-Sukkur Section)	392
3.	Orange Line Metro Train – Lahore	27
4.	Cross Border Optical Fiber Cable (Khunjrab - Rawalpindi)	820
5.	Pilot Project of Digital Terrestrial Multimedia Broadcast (DTMB)	–
6.	Hakla - D.I Khan Motorway	297
	Under Construction Projects	
7.	Zhob - Quetta (Kuchlak) (*N*-50)	305
8.	Khuzdar-Basima Road (*N*-30)	106
9.	Hoshab - Awaran Road Section (*M*-8)	146
10.	KKH Alternate Route Shandur - Chitral Road	153
11.	Nokundi-Mashkhel Road	103
	In-Pipeline Projects	
12.	Up-gradation/Dualization of ML-1 & estab. of Havelian Dry Port	1733
13.	Up-gradation of D.I.Khan (Yarik) - Zhob, *N*-50 Phase-I	235
14.	KKH Alternative Route Gilgit-Shandur Road	213
15.	Realignment of KKH Phase-I Thakot - Raikot Section	250
16.	Peshawar - D.I.Khan Motorway	360
17.	Awaran - Khuzdar Road Section (*M*-8)	168
18.	Dir Expressway	29.6
19.	DTMB-A (Digitalize the existing three sites of PTV)	
	Long Term Projects	
20.	Mirpur-Muzaffarabad-Mansehra Road	200

(*Continued*)

(Continued).

Sr No	PROJECTS	LENGTH (KM)
21.	Karachi Circular Railway	43
22.	Mashkhel - Pangur Road	200
23.	Quetta Mass Transit	–
24.	Greater Peshawar Region Mass Transit	–

Source: Ministry of Planning, Pakistan, https://cpec.gov.pk/.