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Governing CPEC-Led Industrial Development: Special Economic Zones, Public Policy and Socio-Economic Transformation in Khyber Pakhtunkhwa, Pakistan

Dr. Waseem Ullah

Head of the Department & Assistant Professor, Department of Political Science,
University of Lakki Marwat, Khyber Pakhtunkhwa, Pakistan
Email: waseem@ulm.edu.pk

Dr. Surat Khan

Assistant Professor, Department of Political Science, University of Lakki Marwat,
Khyber Pakhtunkhwa, Pakistan Email: surat@ulm.edu.pk

Ambrin Khurshid

MPhil Scholar, Department of Political Science, University of Lakki Marwat, Khyber
Pakhtunkhwa, Pakistan

Inam Ullah Khan

MPhil Scholar, Department of Political Science, University of Lakki Marwat, Khyber
Pakhtunkhwa, Pakistan

ABSTRACT

This paper examines the socio-economic prospects of the China–Pakistan Economic Corridor (CPEC) in Khyber Pakhtunkhwa (KP), with particular attention to Rashakai Special Economic Zone (SEZ), institutional coordination and operational continuity. Using qualitative documentary analysis and an analytical case-study design, it synthesises official information on Rashakai, provincial labour-market indicators and established research on transport corridors, institutions and SEZs. Official information identifies Rashakai as a 1,000-acre zone, including a 247-acre first phase. The analysis finds that physical connectivity and industrial-zone infrastructure create development opportunities but do not themselves demonstrate realised employment, private investment or local supplier benefits. Such outcomes depend on enterprises becoming operational, reliable utilities, effective investor facilitation, relevant workforce skills and coordination across institutions. The article proposes an outcome-oriented monitoring framework distinguishing investment announcements, physical outputs and verified economic results. Because available public records do not provide an adequate firm-level panel or identifiable causal comparison, the paper does not estimate CPEC-attributable job creation or causal economic effects. It argues that credible provincial industrial policy requires measurement of productive activity, local participation and transparent institutional reporting.

Keywords: China–Pakistan Economic Corridor; Khyber Pakhtunkhwa; Rashakai Special Economic Zone; Industrial Policy; Institutional Governance; Regional Development



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Introduction

The China–Pakistan Economic Corridor (CPEC) has become a central reference point in debates about connectivity, trade and industrial transformation in Pakistan. Its strategic significance is often described through roads, logistics facilities, industrial zones and linkages with national and cross-border markets. Yet the development significance of these investments cannot be established merely by identifying construction projects or announced commitments. The relevant question is whether improved infrastructure changes the incentives and capabilities of productive enterprises, creates durable work and expands economic opportunities for communities within reach of corridor projects.

Khyber Pakhtunkhwa (KP) provides an important setting for this question. Its geographical position, proximity to Afghan trade routes and connections with Punjab and Islamabad create plausible opportunities for logistics, manufacturing and associated services. At the same time, provincial labour-market conditions, uneven business capabilities and the implementation demands of large projects make it necessary to examine the mechanisms linking investment to actual outcomes. The Pakistan Labour Force Survey 2024–25 provides broader employment context; it cannot be used as evidence that CPEC itself caused a change in jobs or unemployment (Pakistan Bureau of Statistics, 2026).

Rashakai Special Economic Zone (SEZ), located in Nowshera District, is the clearest case for considering this relationship. The official CPEC Secretariat describes a 1,000-acre industrial area, with the 247-acre first phase developed and launched for investment. Its location near the M-1 motorway offers access to regional markets. The official description also records a 2019 concession agreement and a September 2020 development agreement. These facts describe project architecture and infrastructure progress; they do not quantify industrial production or employment achieved (CPEC Secretariat, n.d.).

This paper approaches CPEC as an institutional and economic development process rather than a simple construction programme. Through a documentary case study of Rashakai and a synthesis of corridor and SEZ literature, it identifies the conditions under which an industrial zone may move from infrastructure availability to operating factories and wider local benefits. It distinguishes official project characteristics, scholarly interpretation and recommendations for future measurement.

Literature Review

The World Bank (2019) argues that transport corridors can reduce trade costs and create market opportunities, but their benefits depend on complementary policy reforms, credible institutions and the distribution of gains. Corridor infrastructure may change economic geography without ensuring that every connected location experiences equivalent growth. This caution is particularly relevant to KP, where the effects of connectivity are mediated by sectoral composition, skills and the capacities of local enterprises.

The international SEZ literature offers a related insight. UNCTAD (2019) describes the diversity of economic-zone models and emphasises investment promotion, policy design, governance and linkages with surrounding economies. Farole (2011), comparing African SEZ experiences, documents the importance of zone-level performance and the limited spillovers that may arise when zones function as enclaves. These studies advise against treating zone establishment as a reliable proxy for broader industrial transformation.

Institutional analysis further clarifies the processes between inputs and outcomes. North (1990) explains how formal rules and informal constraints structure economic behaviour.



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Akinci and Crittle (2008) emphasise that zone success requires viable location decisions, regulatory arrangements, administration and external economic links. Institutional coordination matters because investors need more than an industrial plot: they require predictable decisions, essential services and resolution of cross-agency problems. Delays at one stage may impede the transition to productive operation even if earlier stages have been completed.

The literature also draws attention to inclusion. Large firms may bring investment and technologies without immediately generating significant local spillovers. Employment depends on the labour intensity of production and the match between required and available skills. Local procurement depends on quality standards, information, price competitiveness and reliable delivery. These are empirically contingent relationships. Accordingly, social and economic inclusion should be measured through observable participation rather than inferred from the presence of industrial investors.

The present paper contributes to these debates through a KP-focused interpretation of Rashakai and the governance conditions relevant to CPEC. It does not claim a new econometric impact estimate. Instead, it develops a structured evidence hierarchy and performance framework suitable for later validation with enterprise, labour-market and stakeholder data. The OECD (2021) criteria of relevance, effectiveness, efficiency, impact and sustainability assist in distinguishing short-term development outputs from longer-term economic results.

Research Questions

How can CPEC-related connectivity and industrial investment translate into socio-economic opportunities for workers and enterprises in KP?

What does the documented status of Rashakai SEZ establish, and what additional evidence is needed to assess its industrial and employment performance?

How do institutional coordination, administrative predictability and service reliability influence the transition from industrial infrastructure to operation?

What roles can skills, local procurement and continuity-risk management play in the distribution and sustainability of potential benefits?

Aims and Objectives

To explain the relationship between corridor infrastructure, industrialisation and measurable development outcomes in KP

To examine Rashakai SEZ through verified official project characteristics and an outcome-focused case-study lens.

To analyse relevant institutional, workforce, supplier-linkage and continuity conditions.

To develop practical indicators and policy recommendations for stronger, more inclusive provincial development monitoring

Methodology

This study employs qualitative documentary analysis alongside an analytical case study of Rashakai SEZ. The unit of analysis is the proposed pathway from transport and industrial infrastructure to enterprise operations and wider socio-economic outcomes in KP. The documentary corpus comprises official CPEC Secretariat descriptions of Rashakai, Pakistan Bureau of Statistics labour-market information and published scholarly and institutional research on economic corridors, SEZs and governance. Rather than conducting new interviews or claiming survey representativeness, the study examines what these sources establish and which outcomes still require direct



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measurement.

Documents were assessed according to source authority, relevance and evidentiary scope. Official CPEC records establish reported project characteristics and milestones, while published studies provide comparative mechanisms and explanations. Provincial unemployment statistics describe the broader labour-market context but do not isolate CPEC effects. Crucially, announced investment, allocated land and infrastructure completion were not treated as equivalent to realised capital expenditure, operational production or payroll employment. The inquiry therefore focuses on what may legitimately be inferred from each source.

Analysis proceeded in four stages. First, the study extracted verifiable facts concerning Rashakai and relevant provincial conditions. Second, it developed a sequence linking infrastructure provision, institutional conditions, enterprise operation and socio-economic outcomes. Third, it compared this sequence with published findings on SEZ performance, investment facilitation and local spillovers. Fourth, it specified measurable indicators and future research priorities. Triangulation here means comparing documentary sources and theoretical expectations, not claiming completed integration of an unavailable primary survey dataset.

The study is explanatory and documentary rather than an interview-based population survey or causal impact evaluation. No primary interview quotations, invented respondent totals or unestimated regression coefficients are presented. Its strength lies in a transparent account of observable project features and the conditions under which claimed development benefits could be independently tested. Limitations include the absence of an enterprise-level panel, counterfactual comparison and independently verified longitudinal employment series.

Findings and Discussion

The difference between infrastructure and economic outcomes

The first finding is conceptual but operationally important: an industrial zone can make land available and deliver basic infrastructure without yet generating production at the scale assumed in public discussion. Four stages should be kept separate: site development, enterprise establishment, commercial operation and economic spillovers. Each stage requires different evidence. Project announcements and ground-breaking events demonstrate commitment; utilities and industrial plots demonstrate inputs; factories producing goods demonstrate activity; employment, realised investment and supplier contracts demonstrate selected outcomes.

Table 1. Evidence ladder for evaluating corridor-led industrial development

Stage	Observable measure	What it does not prove
Infrastructure	Serviced acres, roads, utility connections	That firms are producing commercially
Enterprise pipeline	Applications, allotments, construction	That all firms have commissioned
Industrial operations	Active plants, production, payroll	That benefits are widely distributed
Economic outcomes	Verified jobs, investment, procurement, exports	That all change was caused by CPEC

Rashakai SEZ: a documented platform, not a quantified impact estimate

Rashakai is designated as a 1,000-acre SEZ in Nowshera, with a first phase of 247 acres.



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The CPEC Secretariat identifies the Khyber Pakhtunkhwa Economic Zones Development and Management Company and China Road and Bridge Corporation as participants in its development structure, and describes proximity to the M-1 motorway and major regional markets. Its 2019 and 2020 agreements and May 2021 launch are project milestones. The official development agreement's US\$128 million figure describes a development agreement, not independently verified realised private industrial investment (CPEC Secretariat, n.d.).

Table 2. Selected verifiable Rashakai project characteristics

Characteristic	Officially reported value	Interpretive status
Total designated area	1,000 acres	Land allocation / project scale
First development phase	247 acres	Phase footprint (24.7% of total area)
Location	Nowshera District, KP; near M-1	Connectivity context
Concession agreement	April 2019	Institutional milestone
Development agreement	14 September 2020	Project milestone
Groundbreaking / launch	28 May 2021	Project milestone

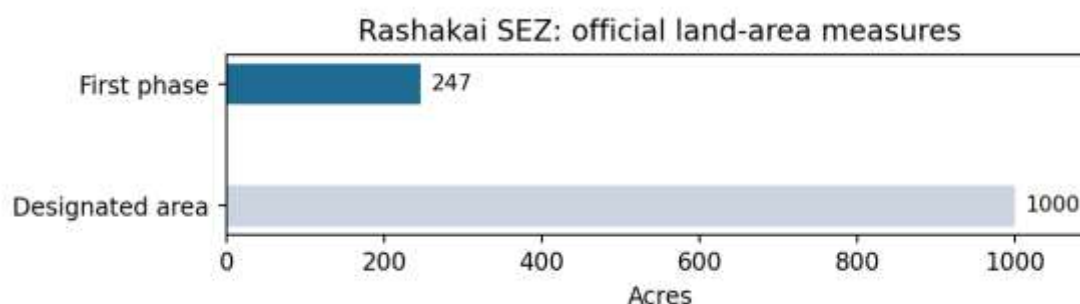


Figure 1. Rashakai designated land and Phase-I land, based on the CPEC Secretariat. These area measures are not industrial output measures.

Industrial readiness is multidimensional

Ready-to-use industrial land is only one part of a credible investment proposition. The reliability of electricity, water, drainage, transport and communications can determine whether manufacturers can plan production at competitive cost. The availability of facilities must therefore be paired with service-performance indicators such as outage frequency, connection time and reliable delivery capacity. In addition, investors require transparent administrative procedures governing permissions, industrial construction and relevant utility connections. These demands cross organisational boundaries, which makes effective coordination a productive resource in its own right.

Governance and institutional coordination

Governance deserves an explicit place in the analytical model because planning authorities, industrial-zone management, regulators and utility providers have distinct mandates. Even when each acts within its formal responsibilities, investors may experience delays if procedures are not coordinated across offices. Relevant empirical indicators include responsibility clarity, approval-processing time, resolution of service requests, access to information and consistency of administrative decisions. These are institutional mechanisms suggested by theory and comparative research; no prevalence



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rate or monetary cost of coordination failures is estimated here.

Employment, skills and inclusive participation

KP's labour-market situation gives urgency to questions about productive employment. The Pakistan Labour Force Survey 2024–25 reports unemployment of 6.9% for Pakistan under the 13th ICLS series, while the province's corresponding rate requires careful use of its own disaggregation and definition (Pakistan Bureau of Statistics, 2026). A general provincial statistic cannot identify jobs attributable to Rashakai. The decisive measures are enterprise payroll records, job types, duration, recruitment location, earnings and relevant skills. The zone's potential contribution to inclusion will depend on whether workers can meet employer requirements and whether training institutions respond to verifiable demand.

Local enterprises and supplier spillovers

Large industrial facilities do not automatically purchase inputs locally. Supplier relationships require adequate production quality, delivery reliability, financing and information. Local SMEs may obtain commercially sustainable opportunities in maintenance, logistics, packaging, professional services and manufacturing inputs, but claims of realised contracts require actual procurement evidence. A supplier-development approach would start by identifying purchasing categories and quality requirements, then assessing the capabilities of local firms against those requirements. The important indicators are verified supply contracts and their value rather than the number of informational meetings alone.

Continuity risks and investor confidence

Security, administrative uncertainty, utility interruptions and market fluctuations are distinct sources of investment risk. Their effects should not be conflated. For example, concern about security is a perception variable, while the number of days a factory stopped production due to electricity failure is an observed operating measure. Both may matter to decision-makers but require different evidence. The research framework treats continuity risk as potentially relevant to investment confidence, not as a statistically established determinant. The appropriate policy response combines clear communication, consistent service provision and evidence-led contingency planning.

Measurable economic opportunities versus broad narratives

A strong evaluation framework makes claims falsifiable. Statements that a zone may attract investment should be separated from reports of actual capital expenditure. Likewise, employment projections must not be presented as observed jobs. Repeated, dated measurements at enterprise and institutional level could establish an evidence base for changes over time. But causal attribution would still require a suitable design addressing economic trends, selection effects and other investment drivers. In the absence of such a design, claims should be framed as association, reported implementation status or policy potential.

Operational milestones and the evidence needed to assess them

Industrial development follows distinguishable milestones. Zone designation is a legal and administrative step; infrastructure provision makes the site technically accessible; enterprise applications and plot allocations indicate investor interest; construction and commissioning indicate progress toward productive capacity; and continuous operations



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create the possibility of measured jobs, purchases and output. Evidence should follow these stages without conflating them. A zone may achieve considerable construction progress while its economic contribution remains uncertain. Similarly, an announced investment figure is not proof of realised capital expenditure. Monitoring should specify the date, responsible reporting institution, operational definition and independent verification source for each indicator.

Table 3. Industrial development stages and evidence requirements

Development stage	Observable evidence	What remains to be verified
Zone designation	Official notification and zone boundaries	Actual firm operations
Infrastructure delivery	Serviced plots, utilities and road certificates	Reliable supply and usable capacity
Investor commitments	Applications, approvals and allotments	Capital actually invested
Factory establishment	Construction, commissioning records	Commercial production and continuity
Economic outcomes	Verified payroll, sales and procurement	Net additional local effects

Distinguishing developmental claims from measurable impacts

The distinction between inputs, outputs, outcomes and impacts is central to credible evaluation. Industrial land and public infrastructure are inputs or early outputs. Factory operations, production capacity, employment and procurement constitute more proximate economic results, but even their presence does not necessarily prove that a policy caused them. Net impact requires evidence of what would likely have happened without the intervention, including possible displacement, changes in market conditions and effects outside the zone. Future evaluation should use enterprise-level time series, comparison areas where feasible and transparent attribution methods, rather than equating gross activity with net benefits.

Policy implications of the evidence hierarchy

The central policy implication is a move from announcement-led monitoring toward an operational and outcome-led dashboard. A useful dashboard should record serviced plots and infrastructure, but also the numbers of firms at distinct stages, realised private capital, current payroll employment, local procurement and utility reliability. Sources, dates and definitions must accompany every indicator. The dashboard should also record the agencies responsible for measurement and distinguish estimated figures from verified administrative data. Without these disciplines, impressive-looking project metrics risk becoming incomparable over time.

Table 4. Proposed provincial CPEC/SEZ monitoring indicators

Domain	Indicator	Verification
Infrastructure	Serviced hectares/acres; connection uptime	Engineering and utility records
Enterprise activation	Firms operational versus under construction	SEZ and enterprise inspections
Investment	Realised fixed capital investment	Audited enterprise/official returns



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Employment	Actual payroll jobs and local hires	Employer payroll with safeguards
SME integration	Value and number of verified supplier contracts	Procurement and supplier records
Continuity	Days lost to service disruptions	Time-stamped operating logs

Scope and limits of inference

This paper does not present original interview-response counts, fabricated quotations, inferential regression estimates or verified changes in provincial household welfare. Its contribution is to clarify documented Rashakai characteristics, explain the sequence of conditions between infrastructure and economic outcomes, and translate that sequence into measurable indicators. The interpretation is therefore documentary and analytical rather than a statistically representative assessment of investor or community opinion. Future field studies would strengthen the model by examining enterprises, workers, suppliers and administrative processes directly.

Theoretical Framework

The framework integrates economic corridor theory, institutional economics, industrial agglomeration and an outcomes-based evaluation perspective. Corridor theory describes how transport connectivity may reduce costs and broaden accessible markets. SEZ and agglomeration arguments explain why spatial concentration of firms and services can support productivity, provided relevant business and policy conditions exist. Institutional economics emphasises the rules and organisations shaping investor decisions. Evaluation theory distinguishes inputs and outputs from outcomes and longer-term impact (North, 1990; UNCTAD, 2019; World Bank, 2019; OECD, 2021).

Table 5. Theoretical perspectives applied to CPEC in KP

Perspective	Core proposition	Application
Corridor economics	Connectivity may lower trade and transport frictions	Study market access; do not infer jobs from roads
SEZ / agglomeration	Concentrated infrastructure may attract productive activity	Measure operating firms and business spillovers
Institutional economics	Rules and coordination influence incentives	Measure approvals, utility coordination, predictability
Results-based evaluation	Inputs and outputs differ from development impact	Track verified economic outcomes and attribution

A sequential theory of change

The proposed causal sequence is: corridor and SEZ investment provides physical inputs; institutional coordination, reliable services, skills and market conditions mediate enterprise entry and operation; operating enterprises may generate employment and supplier demand; repeated, accessible opportunities may then contribute to provincial welfare. This is a theory of change requiring verification at each link. A failure at one stage can limit outcomes even when the preceding stage is completed. The framework also recognises feedback: growing firms may increase the demand for skills, utilities and government services.



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Risks, institutions and distribution

Governance and continuity conditions operate not only at project inception but throughout industrial operation. Predictable rules may lower uncertainty in investment decisions; reliable utilities can affect commercial viability; and supplier and workforce capabilities influence the geographical distribution of opportunities. This helps explain why aggregate corridor connectivity does not necessarily produce uniform gains across districts. It also implies that performance monitoring should be disaggregated by enterprise status, location and beneficiary category wherever reliable evidence permits.

Research propositions and the limits of hypothesis testing

The analytical framework motivates several testable propositions: better perceived SEZ readiness may be associated with greater investment confidence; clearer coordination may be associated with smoother implementation; and perceived continuity risks may be associated with weaker confidence. Workforce capabilities and local supplier networks may influence the distribution of economic benefits. These are research propositions, not results of statistical testing. Establishing their direction, magnitude and robustness would require valid measures, an appropriate sample and transparent statistical analysis. In particular, documentary reasoning cannot produce a legitimate p-value or causal coefficient.

Conclusion

The analysis finds that the economic significance of CPEC-related development in KP rests on the ability to translate infrastructure and industrial-zone capacity into verifiable productive activity. Rashakai SEZ has documented locational and physical characteristics that make it a relevant industrial policy case. These characteristics establish potential, not measured net economic impact. Evaluators must therefore distinguish infrastructure, approvals and construction from operating enterprises, realised investment, payroll employment and local supplier transactions.

Institutional coordination, service reliability, skills and continuity management emerge as important conditions for interpreting this transition. The literature suggests they shape investment incentives and spillovers, while the project's documented preparatory work provides a locally relevant framework for investigating them. The evidence available here does not justify claiming representative interview findings, statistically significant relationships or CPEC-attributable changes in KP employment.

A practical provincial response is to establish a dated, verifiable SEZ outcomes dashboard, align training with the requirements of operating firms, create transparent supplier-access mechanisms and assign clear interagency responsibilities. Future research should build enterprise-level longitudinal records and use suitable comparison approaches to estimate economic effects. The wider lesson is that development should ultimately be assessed through sustained economic participation and demonstrated results, not solely through the physical scale or financial announcements of major projects.

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