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ABSTRACT BOOK

1. CHINA-PAKISTAN FINANCIAL COOPERATION: ELABORATION AND EVALUATION OF CHINA-PAKISTAN FINANCIAL COOPERATION UNDER THE BACKGROUND OF THE BELT AND ROAD INITIATIVE


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International financial cooperation refers to international economic and financial organizations and various sovereign states and sovereign states, through mutual information exchange, consultation and coordination, taking common steps and measures in financial policies, financial actions, etc., to reduce financial system risks, prevent financial problems from accumulating to undermine macroeconomic efficiency, protect consumers, foster efficient functioning of financial markets, and prevent criminals and terrorists from abusing the financial system. Generally speaking, as far as the participants are concerned, the participants in international financial cooperation are the central banks and financial companies of various countries; in a broad sense, international financial cooperation usually mainly includes international monetary cooperation, cooperation between financial institutions of various participants, and international investment and financing cooperation, etc. This article focuses on China-Pakistan financial cooperation. First, it briefly reviews the history of China-Pakistan financial cooperation. On this basis, it analyzes the main achievements of current China-Pakistan financial cooperation and finds out the challenges that affect bilateral financial cooperation. In the last part, we pay attention to the specific achievements of China-Pakistan financial cooperation under the "Belt and Road" initiative.

2. THE IMPACT OF RAILWAY DEVELOPMENT ON ECONOMIC GROWTH THROUGH CPEC

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Transportation plays pivotal role to enhance economic development, and one of the main objectives of CPEC is to improve the transportation facilities in Pakistan. CPEC allocates USD 8.6 billion for Pakistan Railways (PR), which indicates that the railway is an important project in CPEC. An effective railway system is essential to enhance trade, rural development and reduction in transportation costs. The current study aims to introduce Pakistan Railways




as an industry and highlight the importance of PR in CPEC. The study also aims to examine the impact of PR's Gross Earning (GE) and Human Development Index (HDI) on Economic growth from 1981 to 2019. The time-series data has been collected by the world development indicator, Ministry of Railways, and Economic Survey of Pakistan. To make empirical analysis Vector Error Correction Model (VECM) is used to forecast better-developed railway infrastructure with economic growth. Johansen's (1988) maximum likelihood method is applied for the existence of a cointegration relationship among the variables in this study. The empirical results show a significant impact of CPEC on Pakistan Railways. The effect of gross earning through railways and HDI on the economic growth of Pakistan has been positive and statistically significant at a 5% significance level. As with the other countries, Pakistan should also focus on high-speed trains and other technology-based ticket generation systems, such as the Bluetooth system, RAFID ticket generation system, and ticket generation through QR-code. Introducing a computerized booking system for passengers, luggage, and parcels is also required to reduce the massive element of corruption in freight transshipment.

3 THE ROLE OF EDUCATION IN ENHANCING THE SOCIO-ECONOMIC IMPACTS OF CHINA-PAKISTAN ECONOMIC CORRIDOR IN PAKISTAN

Dr. Muhammad Asif, Government Islamia Graduate College Civil Lines, Lahore

The prime objective of the state is to secure its citizens. By keeping in mind the concept of Nye, the Chinese Prime Minister introduced the idea of One Belt and One Road and 21st Century Maritime Silk Road, a Chinese Dream, to connect the global community through economics. The China-Pakistan Economic Corridor (CPEC) is an extension of OBOR, linked Kashgar with Gwadar. While visiting Pakistan, on 15th April 2015, the Chinese President, Mr. Xi Jinping announced 46 \$ (Billion) on CPEC Project which opened an opportunity for Pakistan to strengthen its weak economy and further to play a vital role at regional level. It is an understood phenomenon that as oxygen is essential for the survival of the human being likewise the strong economy is important for the survival of the state. Now-a-days, in various media reports, Pakistan has been projected as a default state. Nodoubt, the economy of Pakistan is now under stress but it is not as bleak as it has been portrayed. Pakistan has the



potential to achieve strategic and economic benefits fronts through CPEC if the capability and capacity level of the educational system (structurally or academically) is strengthened. The human development is made possible only through sound, equipped and flourished education system. Pakistan needs to promote the socio-economic oriented education policy instead of strategic-based education. The objective of the research paper is to determine the role of education system to meet the socio-economic benefits of CPEC.

4. CHINA-PAKISTAN ECONOMIC CORRIDOR: OPPORTUNITIES AND CHALLENGES FOR LOCAL INHABITANTS OF GWADAR, BALOCHISTAN

Zahid Ali and Noor Sanauddin, University of Peshawar

This research explores the opportunities and challenges provided by China-Pakistan Economic Corridor (CPEC) to the local inhabitants of Gwadar. As the hub of CPEC, Gwadar has gained national and international attention. This study explores how locals perceive the impact of mega-development projects on their lives and livelihoods. This study adopted qualitative research methodology, using grounded theory for data collection and analysis. The findings demonstrate that at the beginning of the projects, the inhabitants had much higher expectations of improvement in their socio-economic well-being; however, over time, they faced multiple challenges to their livelihoods, such as poverty, vulnerability, relocation, lack of marketable skills, scarcity of potable water, and electricity load shedding, which, according to local inhabitants, has made their lives miserable in many aspects. The locals appreciate the megaprojects and have benefited in many ways but feel isolated and excluded from the process, leading to feelings of alienation in their city. This study recommends policy measures for mainstreaming the local population into the growing economy of Gwadar.



5. **ASSESSING THE IMPLEMENTATION AND IMPACT OF CPEC: UNVEILING THE MISSING LINKS AND REALIZING THE TRUE POTENTIAL**


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This study aims to evaluate the current state of the China-Pakistan Economic Corridor (CPEC) and identify the missing links in its implementation. The study seeks to determine the extent to which CPEC has been effectively utilized and harnessed for economic growth and human development. Additionally, the study explores the level of training provided to the youth for their integration into CPEC projects and assesses the extent of exploration and utilization of CPEC's true potential. Furthermore, the study examines the transparency of CPEC agreements, shedding light on the level of public disclosure and government-to-government negotiations. Using the recent evidence, the study has performed an assessment for CPEC using the insights regarding the employment creation and youth development. The CPEC has enormous potential for economic development, human advancement, and regional integration. The findings of this study provide valuable insights for policymakers, government officials, and other stakeholders involved in the implementation and planning of CPEC.

6. **BALUCHISTAN'S POTENTIAL UNDER CPEC: OPPORTUNITIES AND CHALLENGES**

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The underrepresented province Balochistan which is the largest province of Pakistan area-wise the smallest province in terms of population is the epitome of the China-Pakistan Economic Project CPEC a flagship project of China's led Belt and Road Initiative BRI. Balochistan's natural resources and its geostrategic location remained failed to mitigate the deprivation of the province. However, CPEC is a ray of hope for the province, capitalizing untapped natural resources will result in bringing development and prosperity. Currently, 51 metallic and non-metallic minerals have been discovered in Balochistan. The province is termed "the fruit basket of Pakistan". Addressing water scarcity, power shortages and



constructing crop-specific zone under CPEC will augment production. Coastal areas of the province are massively rich in the production of lobster, shrimp, and cuttlefish and have scintillating sceneries that could be exploited under CPEC to enhance the tourism sector. However, there are innumerable challenges to the CPEC such as separatist movement, lack of advanced education, poor road infrastructure, erosion of democratic values, non-implementation of the 18th amendment, and the role of external actors. In this paper, mixed research method would be applied by using both primary and secondary data. This paper will shed light on Balochistan's potential under CPEC and will comprehensively analyze the challenges to CPEC.

7. TOURISM AND HUMAN CAPITAL DEVELOPMENT: EVIDENCE FROM BELT AND ROAD INITIATIVE (BRI) COUNTRIES

Aamir Shahzad and Syed Mudasser Abbas, Kohat University of Science and Technology, Pakistan

China's Belt and Road Initiative (BRI) and other economic integration indicate significant growth in tourism within host countries. The surge of tourist arrival in BRI host countries has influenced the host population in various ways, including fostering human skills, intensified creativity, language proficiency, and enhanced training and development. Consequently, these changes contribute to the development of human capital. Human capital development (HCD) is essential for economic growth, increased productivity, social progress, adaptability to change, global competitiveness, social cohesion, and individual well-being. This study adopts a comparative approach to understand the connection's insight and examine the experiences of different countries engaged in China's BRI projects and other economic integration. The findings of this study will be a valuable contribution to the body of knowledge by understanding the social impact of BRI on tourism and human capital development. Practically the research will guide policymakers and stakeholders in formulating strategies and policies in host countries.

8. DID U.S. INSTITUTIONAL INVESTMENT IN PAKISTANI PUBLIC FIRMS DECREASED AFTER THE TRADE WAR STARTED BETWEEN CHINA AND THE U.S.?


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We study the spillover effect of geo-political tensions between U.S. and China to U.S. institutional investment in Pakistani stock markets. It can be argued that Pakistan moved strategically closer to China's interests than to U.S.'s after joining China's Belt & Road Initiatives. We investigate the impact of participation in China's Belt and Road Initiative (BRI) on the U.S. institutional investment in the Pakistani public firms during periods of low (high) U.S.-China geo-political tensions. During periods of low U.S.-China geo-political tensions, we find that the U.S. institutional investment increased significantly in the Pakistani public firms between the pre- and the post-BRI periods. Our proxy for high U.S.-China geo-political tensions is the period when trade war started between U.S. and China in 2018 during the Trump administration. Interestingly, during periods of high U.S.-China geo-political tensions in 2019, we do not find strong evidence that the U.S. institutional investors decreased their investments between the pre- and post-trade war period in Pakistani public firms. All our findings holds when we use 1-to-1 matched Indian public firms as a control group.

9. ASSESSING THE POTENTIAL IMPACT OF THIRD-PARTY INVOLVEMENT IN THE EXTENSION OF CPEC TOWARDS IRAN: A COMPARATIVE ANALYSIS OF THE CHABAHAR-GWADAR ROUTE

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By following various other research regarding assessment of the potential impact of third-party involvement in the extension of the China-Pakistan Economic Corridor (CPEC) towards Iran, with a particular focus on the Chabahar-Gwadar route; this study examines the historical background of the Chabahar-Gwadar Memorandum of Understanding (MoU) signed in 2016, highlighting the significance of expected and/or anticipated Iranian role in CPEC projects. By analyzing the basic features of the MoU, including the establishment of sister port cities, railway and flight connections, a new shipping lane, joint border monitoring, and increased power supply, this paper explores the implications for Pakistan,




Iran and the broader region. Moreover, this paper also identifies several key challenges to the Chabahar-Gwadar connectivity as a third-party involvement in CPEC, such as addressing socio-economic complexities, ethno-linguistic dynamics, and potential disruptions from regional conflicts. Additionally, it examines the prospects of this connectivity, including enhanced trade, foreign direct investment, regional connectivity, and the creation of a complex social economy. Moreover, the findings of this study contribute to a better understanding of the dynamics and complexities surrounding third-party participation in CPEC and its impact on regional economic cooperation.

10. CPEC AND THE ROAD TO SUSTAINABLE ECONOMIC GROWTH: PATHWAYS FOR PAKISTAN'S INDUSTRIAL AND INNOVATION POLICIES

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China's meteoric rise during the past three decades as a major contender in the global race for technological and industrial leadership is largely due to the harmony between its industrial policy and science, technology, and innovation policies. The nation with the Great Wall systematically integrated itself with the global systems of innovation and production. The intensity of this aspiration and the strategy for its realization are indicated by the fact that China has become the second largest spender in R&D after the United States. Due to the exemplary economic growth of China and its prominent role in shaping the contemporary global political economy, this study seeks to learn about the loci of its technological competencies. To this end, I examined the technological landscape of China by applying network theoretic methods to the patent data obtained from the global patent database of European Patent Office. This study identifies major areas of China's technological competencies and their linkages with different fields of technology. The findings suggest that Chinese R&D is lagging behind the US in the technology fields related to ICTs, catching up in electric energy and transport technologies, and forging ahead in chemistry-based fields. Electric energy and transport technologies and industries have significant implications for old and new infrastructure and their potential to transform the installed base of several mature industries that rely on fossil fuels and internal combustion engines. These technologies and industries are likely to be the new engines of economic change because of the increasing multilateral commitment to arrest climate change, ever increasing



demand for energy and mobility due to population growth, and decreasing supply of oil and gas due to the depletion of natural reservoirs and international political tensions. China's growing technological capabilities in green energy and transport technologies can be helpful in uplifting its partners in Belt and Road Initiative, including the CPEC. China's competitiveness in the green technologies and industries coupled with its commitment to CPEC gives Pakistan the rare opportunity to develop the capabilities necessary for riding the next wave of economic change.

11. GOVERNANCE OF CROSS-BORDER REGIONS & SEZS

Ghammaz Husnain, Politecnico di Milano/ Beaconhouse National University

As the global focus switched from geo-politics to geo-economics, trade & commute patterns have become immensely significant as they reshaped the urban theory, territorial policies, and governance systems globally. In the aforementioned context, Global-South is undergoing modern history's most ambitious infrastructure project; China's BRI. The research focuses on BRI's flagship project, CPEC, and explores the cross-border cooperation between the two countries. Particularly in the context of transnational institution building as CPEC introduces economic growth that is organized in multi-scalar geographies involving public-private, international, and national-subnational agencies that are directly reshaping regional, sub-regional and local territories.

To contextualize, the research explores the most important node of CPEC: Gwadar, where the economic belt connects with the maritime silk road. The inclusion of Gwadar in CPEC has declared it an SEZ, hosting a globally competitive deep-sea port. For Gwadar, the multi-scalar interactions have resulted in tensions between the center and local, signaling the conflictual nature of the Centre-led macroeconomic agenda and its socio-economic sustainability of it on a local scale.

12. FAST-TRACKING CPEC: ADDRESSING IMPEDIMENTS AND MAPPING POLICY ACTIONS FOR PAKISTAN


Sabina Babar, Centre for Aerospace and Security Studies

The China-Pakistan relationship is often described as an iron-clad relationship which has withstood the test of time and is founded on mutual respect, common interests, and economic and defence partnerships. The China-Pakistan Economic Corridor (CPEC) is a key component of the larger Belt and Road Initiative (BRI), bridging regional connectivity and economic integration between China and Pakistan. CPEC, as a manifestation of peace, growth, and a win-win paradigm, has the potential to create a conducive environment for regional prosperity. It is a key step towards economic regionalization in a globalised world, encouraging the vision of connectivity and cooperation. While the project's initial phases were smooth, the current progress of CPEC has encountered challenges. Therefore, this research aims to provide a comprehensive analysis of the China-Pakistan Economic Corridor, integrating the latest research findings. The primary objective is to shed light on the challenges that have impeded the project's progress. This research endeavours to formulate data-driven recommendations that will outline policy options to fast-track CPEC, ultimately fostering national development and stability.

13. STRATEGIC AMBIDEXTERITY NEEDED FOR INNOVATIVENESS IN AGRICULTURE AND LIVESTOCK FARMING IN PAKISTAN: IMPLICATIONS FOR SECTORAL INTEGRATION INTO CPEC

Azhar Abbas, University of Agriculture, Faisalabad

In Pakistan, the research system is generally aloof from the farmers. Problems in agriculture have increasingly become complex while operating at multi-levels, spatiotemporally, the solutions too need to be broad-based and should follow a strategic ambidexterity by first creating innovations and then facilitating their adoption. Many innovative techniques had been developed and introduced decades ago but their diffusion still lacks pace courtesy larger disconnect between researchers and end-users. This situation has been the result of



lacking inter-sectoral linkages, mismatch between the skills to operate, poor optimization of the innovation and adjustability, market failure, constrained advisor services and poor institutional support. Moreover, there are few organizations focusing entrepreneurial research for farmers having poor entrepreneurial ability, innovation development done in silos hence failing to support desired change, poor integration in the knowledge development due to competing agendas, and poor diffusion of innovation. CPEC has been able to provide a wide range of options for innovation and integration of sectors for improved outcomes related to quality, quantity, value chain development and market accessibility.

14. THE PROSPECTS OF REGIONAL INTEGRATION THROUGH THE GWADAR; AN ANALYTICAL APPROACH TO THE COMPLEX INTERDEPENDENCE BETWEEN STATES

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Gwadar, after the port inauguration and later the commencement of China Pakistan Economic Corridor has garnered attention by the policy makers and the regional actors. Gwadar's significance rests in its distinctive location as the convergence site between the demand and supply markets of the world. The proximity of Gwadar to Central Asia, Persian Gulf and access of the regional power like China sets it apart. The following study uses the complex interdependence framework to assess the reciprocal relationship between regional actors and Gwadar. For this purpose, the paper below is categorized into three major sections; an introductory interlinkage between Gwadar with OBOR and CPEC, its significance and ability to operate as a regional maritime hub. The second section provides an in depth understanding of the complementary relationship between Gwadar and all relevant regional actors. The last section underlines the shortcomings to Gwadar Port's role in promoting regional integration and highlights the policy implications of the research.

15. UNVEILING THE ENERGY NEXUS: THE TRILATERAL CONFLUENCE ENERGY CORRIDOR (TCEC) BETWEEN CHINA, PAKISTAN AND IRAN


Maria Mansab, Quaid I Azam University Islamabad

Taking into consideration the geostrategic and geopolitical position of China, Pakistan and Iran, this paper evaluates Chinese, Iranian, and Pakistani energy needs and potential. The requirements, prospects, and existing energy sources of these states create the potential for a cooperative framework from which each state can benefit. Though certain energy-sharing initiatives are already in existence, there is room for additional trilateral and regional initiatives. On the basis of these considerations, the paper proposes a trilateral energy corridor termed "Trilateral Confluence Energy Corridor (TCEC) between China, Pakistan, and Iran. Complex interdependence theory is used to analyze the significance of this corridor; it highlights the convergence and meeting points of these three states, emphasizing the significance of their geographic connectivity and the potential for collaboration and cross-cultural exchanges among them. This corridor will facilitate energy trade between these states via pipeline, land, and sea routes and, moreover, offers the possibility of regionalism.

16. ASSESSING THE ENERGY SECURITY, JUST ENERGY TRANSITION PARTNERSHIP POTENTIAL UNDER CPEC: A SWOT ANALYSIS

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The Just Energy Transition Partnership (JETP) under the China-Pakistan Economic Corridor (CPEC) can be the potential catalyst for Pakistan's efforts to reduce carbon emissions while receiving international support through climate finance and to accelerate the drive towards renewable energy. This research paper examines and explores the role of CPEC in facilitating Pakistan's transition to a low-carbon economy through JETPs, aligning with its commitments under the Paris Agreement. With the participation of key international stakeholders, including G7 members and China, the JETP enables global partners to showcase their political commitment to addressing global emissions. The partnership encompasses various



elements, such as transforming the electricity sector, developing a hydrogen economy, and scaling up electric vehicles. Furthermore, it emphasizes the importance of a just transition, particularly in the coal mining sector, to ensure support for affected communities and workers. To gain a comprehensive understanding of the JETP's effectiveness and sustainability, a SWOT analysis is conducted using data gathered through interviews, discussions, and seminars. This analysis enables policymakers, stakeholders, and international partners to identify strengths, weaknesses, opportunities, and threats associated with the partnership. By leveraging strengths, addressing weaknesses, capitalizing on opportunities, and mitigating threats, the JETP under CPEC will aim to foster a just and sustainable energy transition in Pakistan.

17. QUALITATIVE RESEARCH ON DEVELOPMENT OF FOURTH INDUSTRIAL REVOLUTION AND ITS FORECASTING

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This paper discusses the significance of the fourth industrial revolution in manufacturing and energy sector has been discussed. New and innovative technologies that can help to reduce the gap between conventional and AI based manufacturing sector have also been taken into consideration. A comparison table is also presented. In the literature review, research gaps have been identified to clarify the aim and objectives of this paper. Bibliometrix methodology is followed and a roadmap is proposed for the better implementation of fourth industrial revolution and its tools. Forecasting of number of publications from 2005 to 2023 is done through grey model which was simulated through VBA excel which showed the number of publications to analyze the research interest of manufacturers and researchers in the studied topic till 2028. Science direct data was analyzed to analyze the most cited journals. In the end, few recommendations are presented followed by a concluding remark.

18. OPTIMUM CURRENCY AREA ARRANGEMENTS AMONG ASEAN+3+3 COUNTRIES: CONNECTIVITY PROSPECTS FOR PAKISTAN


Jamshaid Ur Rehman, Government College University Lahore

This study uses the extended version of the generalized purchasing power parity (G-PPP) theory to analyze the potential for an OCA for the ASEAN+3+3+Pakistan with two structural breaks of AFC and GFC. The US, China and Japan are considered as base countries. The Johansen *et al.* (2000) methodology is used that allows to incorporate up to two exogenous structural breaks. The two unit root tests are also applied with two breaks i.e., Lumsdaine-Papell Unit Root Test and Lee-Strazicich Unit Root Test. The results revealed the presence of long-run G-PPP, these countries could form an OCA at a larger group with Pakistan either by ASEANBig5+CHN+JPN+KOR or ASEANBig5+AUS+ IND +NZL groups. The possibility of smaller groups OCA is not supported such as CHN+JPN+KOR or AUS+IND+NZL without Pakistan. The result also supported possibility of an OCA among ASEANsmall5 with Pakistan. The stability test indicates that parameters are stable for ASEANBig5+3+3 countries with Pakistan after AFC.

19. BETWEEN GEOPOLITICS AND GEO-ECONOMICS: ANALYZING PAKISTAN'S NEW NARRATIVE IN THE EMERGING GEOPOLITICAL COMPETITION IN SOUTH ASIA

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The rise of China and the relative decline of the US power has significantly transformed the global and regional geopolitical landscape. The transformation has implications for middle powers such as Pakistan, which finds itself amid a new geopolitical theater involving India, China, and the US. Amidst the new geopolitical compulsions and to safeguard its national self-interests, Pakistan has unpacked a novel *geo-economics* approach based on regional connectivity, greater trade partnerships, avoiding block politics, and peaceful co-existence. The narrative emphasized the centrality of CPEC and Gwadar Port in the extended regional connectivity, integration, peaceful co-existence, and people-centered development. In this context, the present paper investigates how Pakistan can balance the geopolitical and geo-economic landscape. It asks, (a) where Pakistan finds itself in the emerging geopolitics? (b)



How and to what extent can major power competition potentially derail Pakistan's geo-economics narrative? (c) How and what techniques can Pakistan employ to avoid emerging geopolitics in South Asia? The paper argues that a middle path between absolute geopolitics and absolute geo-economics is essential to realize Pakistan's national development and rejuvenation dream. Pakistan needs US defense and strategic assistance to maintain the regional balance of power. At the same time, economic revival and infrastructure development can only be achieved through the Chinese-sponsored multibillion-dollar project of CPEC. The success of Pakistan's geo-economics strategy depends upon Islamabad's ability to construct and sustain a policy of 'zero-enemy' and '*multipartite and multimodal friendship and collaboration*' while refraining from entering into block politics and settling disputes through dialogue and negotiations.

20. GEOPOLITICAL AND GEOECONOMIC IMPLICATIONS OF GWADAR PORT FOR REGIONAL POWER DYNAMICS IN THE CONTEXT OF BRI

Sami Ullah, University of Central Punjab, Lahore

The development of Gwadar Port is a complex issue involving various economic, strategic, and political considerations. While it can potentially transform regional power dynamics and stimulate economic development, it raises several concerns that must be carefully considered and addressed. This research discusses the role of Gwadar Port in successfully implementing BRI and its geopolitical and geo-economic outcomes for Pakistan, China, BRI participants, and other regional stakeholders. A qualitative research approach analyses data obtained from official reports and government documents. The findings show that Gwadar Port's geopolitical and geo-economic significance lies in its strategic location, its role in the China-Pakistan Economic Corridor, its potential as a naval power projection point, and its contribution to trade, connectivity, energy security, and economic development in the region. Moreover, Pakistan is expected to observe a significant rise in maritime trade capacity to support the dwindling economy. Furthermore, naval security will improve by reducing reliance on ports in Karachi near the Indian border

21. THE IMPACT OF CHINA-PAKISTAN ENERGY COOPERATION ON POVERTY REDUCTION IN PAKISTAN: EMPIRICAL ANALYSIS BASED ON THE EARLY CPEC PROGRAM

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The study investigates the most important impacts of China-Pakistan energy cooperation on poverty reduction in Pakistan under CPEC. For this purpose, firstly, the study defines “energy poverty” and analyzes achievements of energy cooperation between China and Pakistan under the framework of CPEC, examines the impact of China-Pakistan energy cooperation on poverty reduction in Pakistan using the data of the early CPEC program from 2013 to 2018 from the perspective of employment, electricity, and availability of commodity fuels in Pakistan. The empirical results indicated that energy poverty in Pakistan was significantly reduced in the post-CPEC years. Further, the empirical results indicated that there had been a significant reduction in the overall energy poverty profile. Based on the above empirical analysis, research conclusions, and policy recommendations are provided.

22. AN EXPERIENCE OF DEALING WITH LARGE-SCALE POWER OUTAGE OF METRO RAIL TRANSIT IN LAHORE: ASSESSMENT OF EMERGENCY RESPONSES TO AN ENERGY CHALLENGE

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OLMRTS (Orange Line Metro Rail Transit System)

Due to the ever-increasing demand for public transportation, especially in developing countries, there are several challenges associated with power outages that need to be addressed. Power outages may become the reason for the disruption of electric trains' service in large metropolises due to which commuters suffer a lot and system owners incur a huge financial loss. There is a need to well-plan emergency and rescue measures in the event of severe power disruptions. This article presents the experience and assessment regarding the suspension of the operations of the metro rail transit system in Lahore, Pakistan, due to a severe power outage in the early morning on January 23, 2023. Effects of severe power outage on passenger service and metro systems are identified. Furthermore, areas of improvement and lessons learned are presented for better and safe handling of such events in the future. This research provides a learning case for metro operators and maintainers in dealing with large-scale power outages.



23. DEVELOPMENT IN THE BRI COUNTRIES USING GREEN TECHNOLOGIES: CIRCULAR ECONOMY FOR THE INDUSTRIES, INNOVATIVE TECHNOLOGIES FOR ENERGY AND TRANSPORT

Seeme Mallick, Freelance Consultant Islamabad

The aim is to accelerate economic growth using green technologies. The labor force would be provided green skills to bring green technologies for environmentally sustainable development. This green work force would be provided training at specialized technical colleges, institutions and universities. These skilled trained labor force would take up jobs in the specific industries, energy provision sites and transport hubs in the Chinese Belt and Road Initiative (BRI) countries. “Employment with BRI” program would identify skilled labor demand in the BRI countries. The assigned institutions would identify candidates and train them to work along with the Chinese in each of the 12 industries, 13 energy technologies, 7 transport technologies and 6 factors pertaining to the circular economy. Each of these 38 sectors would link with at least 1 of the 17 SDGs by 2030. This would build the trajectory for a sustained economic growth path from 2030 to 2060.

24. ENHANCING WOMEN'S PARTICIPATION IN GREEN SECTORS: STRATEGIES FOR INCLUSIVE HUMAN RESOURCE DEVELOPMENT UNDER CPEC

Sobia Khursheed, NUST Institute of Policy Studies (NIPS).

In Pakistan, there is a growing recognition of inclusive human resource development, ecological sustainability, and fostering women's empowerment, particularly in green sector industries. The developmental landscape of Pakistan hinges on the active participation of women's unique perspectives and their inclusion is indispensable for the inclusive human resource development, socio-economic growth, and prosperity of Pakistan. This study investigates the barriers faced by the women of Pakistan in utilizing their full potential in green sectors and provides actionable targeted strategies to drive productivity, innovation, and diversity to foster inclusivity, human resource development, women's empowerment, and sustainable growth under China-Pakistan Economic Corridor (CPEC) framework. CPEC, a flagship project of the Chinese Belt and Road Initiative, offers immense opportunities for the economic growth of Pakistan and has the potential to become a game changer for women's emancipation in Pakistan.

25. SECURITY AND GEOPOLITICAL IMPLICATIONS OF CPEC AND BRI IN PAKISTAN'S RELATIONS WITH KENYA, TANZANIA AND DJIBOUTI


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This paper explores the security and geopolitical implications of the China-Pakistan Economic Corridor (CPEC) as well as the Belt and Road Initiative (BRI) in Pakistan's relations with Kenya, Tanzania and Djibouti. Study uses a theoretical model of neo-liberalism and neo-realism along with mixed method including qualitative and quantitative: in-depth interviews, analyze policy documents as well as examine official communications and statistical data to detain the perspectives, interests and strategic calculations of key stakeholder and to give empirical insights on economic interdependence and power dynamics. The research findings contribute to an inclusive understanding of the security and geopolitical implications of CPEC and BRI in Pakistan's relations with Kenya, Tanzania, and Djibouti. The findings provide an essential insight into the potential challenges and opportunities arising from these initiatives in Pakistan, China and selective East African countries. The study reveals the complex interplay between economic interdependence, institutional frameworks, power dynamics and regional stability.

26. EXPLORING OPPORTUNITIES, CHALLENGES AND SOCIAL ECONOMIC BENEFITS OF CHINA PAKISTAN ECONOMIC CORRIDOR: FROM THE PERSPECTIVE OF PAKISTAN

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The aim of this paper is to review and identify the opportunities, challenges and social-economic benefits of CPEC on Pakistan's economy and society. For Pakistan, CPEC is not only the opportunity to arise as a hub for economic activities in the region but has the potential to bring several social and economic benefits to Pakistan. These includes infrastructure development, economic growth and stability, trade expansion, social development, regional integration, energy sector development, job creation, among others. Beside opportunities and benefits, CPEC also bring challenges to Pakistan such as security concerns,



environmental impact, social economic imbalances, debt sustainability, local participation, equitable distribution of benefits among different regions within Pakistan. Moreover, several SDGs can be achieved through the implementation of the CPEC. However, policymakers need to ensure that the benefits of this economic development are inclusive and reach all segments of society. Policymakers should focus on improving governance structures, ensuring transparency, and minimizing corruption in the implementation of CPEC projects. This will help build public trust and ensure that the benefits are distributed equitably.

27. EXPLORING THE ROLE OF SMES RESILIENCE AND ITS INTEGRATION WITHIN THE CONTEXT OF CPEC DEVELOPMENT

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Small Medium Enterprises (SMEs) are significant in developing emerging economies such as Pakistan. SMEs integration into the China-Pakistan economic corridor (CPEC) can elevate the current economic conditions of Pakistan through indigenous capability enhancement. However, SMEs are particularly prone to Pakistan's turbulent current economic conditions. For this purpose, this research attempts to explore the required processes and mechanisms that can be put in place to make SMEs more resilient, thereby facilitating their integration into CPEC. Findings from the semi-structured interviews of experienced SME professionals revealed the importance of building adaptive capabilities through situational awareness during times of crisis. Moreover, key resilient enablers that can facilitate the resilient processes within SMEs are also highlighted.

28 EXPLORING THE SECURITY AND GEOPOLITICAL DIMENSIONS OF CHINA PAKISTAN ECONOMIC CORRIDOR

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The China-Pakistan Economic Corridor (CPEC) holds immense importance for China, Pakistan, and the wider region due to its potential economic and strategic benefits. However, the project is not without its challenges, particularly in terms of security threats and the influence of regional power dynamics. Internally, CPEC faces a range of security concerns. Baloch insurgency, driven by grievances over resource exploitation and perceived marginalization, poses a significant threat to the project. Various militant and terrorist groups operating in the region, such as the Tehrik-i-Taliban Pakistan (TTP), have targeted CPEC infrastructure and personnel, aiming to disrupt its progress and undermine Chinese interests. Moreover, political instability within Pakistan adds another layer of complexity and potential risk to the smooth implementation of CPEC. Externally, the situation in Afghanistan has implications for CPEC's security. The instability and presence of militant groups in Afghanistan spill over into Pakistan, directly impacting the security environment surrounding CPEC. India has expressed concerns over CPEC, particularly regarding its route passing through Kashmir, which is a disputed territory between India and Pakistan. From a geopolitical perspective, CPEC holds significance due to its connection to the Indian Ocean Region (IOR) and the establishment of the deep-sea port at Gwadar. This strategic location provides China with a potential foothold in the region, allowing for enhanced maritime access and trade connectivity. The growing presence of Chinese naval activity in the IOR raises concerns for the United States (US), which closely monitors the development of CPEC and its implications for regional power dynamics. India, in particular, fears the expanding Chinese presence in the IOR, as it may affect India's naval dominance in the region. This adds an additional layer of complexity to the geopolitical landscape surrounding CPEC.



29. EXTERNAL AND INTERNAL CHALLENGES FOR CPEC IN PAKISTAN'S PERSPECTIVE

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Regional integration is not a new phenomenon but with the advancement in means of communication and transportation, it has fastened manifold because of its competitiveness and swiftness. The CPEC offers many business and economic openings for South Asia particularly and is expected to be an exemplary trade network with improved infrastructure and services. Since its inception, various regional countries were attracted because of its economic benefits, however, some regional and extra-regional countries have perceived CPEC as a challenge to their political interests in Asia. In this regard, India is at the forefront, supported by USA, Australia, and Japan who are engaged in the Quad dialogue. (S.N., 2021) Some internal factors particularly in Pakistan like terrorism, security issues, unstable government, red tapism, corruption, and environmental issue are posing challenges to its processes and success. So, in this paper, an effort will be made to identify internal, regional, and extra-regional challenges to the CPEC and figure out solutions to address them.

30. LEVERAGING THE CHINA-PAKISTAN ECONOMIC CORRIDOR (CPEC) FOR SUSTAINABLE BLUE ECONOMY AND COASTAL GROWTH

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The reclamation of the archaic Silk Road will link China with Africa, the Middle East, and Europe with a railway network, airports, roads, seaports, and an optical fiber network (OBOR). BRI is based on two pillars: the maritime Silk Road and the Silk Road economic belt. Six economic corridors form the basis of BRI. The CPEC, is the centerpiece project of China's Belt and Road Initiative, which aims to promote regional connectivity and economic collaboration. This study examines the possibility of using the CPEC to support Pakistan's coastline development and blue economy. It looks at the distinct opportunity that CPEC offers for coastal development and suggests ways to maximize the advantages while minimizing the negative effects on the environment. The research methodology includes a comprehensive review of literature, case studies to gain insights into the challenges and opportunities associated with CPEC and sustainable coastal growth. The study also focuses on the key aspects of the blue economy, emphasizing its potential to promote sustainable development by harnessing the resources and economic activities associated with the sea and coasts. It emphasizes how crucial it is to include sustainability concepts in CPEC projects in order to lessen these risks. Based on the analysis of opportunities and challenges, this study proposes a set of sustainable strategies for leveraging CPEC for blue economy and coastal growth. These strategies encompass ecosystem-based approaches, green infrastructure, renewable energy integration, waste management, climate adaptation measures, and community engagement. This study provides policy recommendations for government agencies, international organizations, and other stakeholders involved in CPEC projects. Based on the assessment of potential and key components, it suggests sustainable strategies for coastal tourism development under the CPEC 1+5 model Proposed in the 2017 Long term plan as well as Maritime SEZ. These strategies encompass the preservation of natural and cultural heritage, community engagement, responsible tourism practices, eco-friendly infrastructure, destination branding, and collaboration with local stakeholders. The findings of this research contribute to the ongoing discourse on sustainable development and provide actionable insights for policymakers and practitioners working in the context of CPEC and coastal regions.

31. STATISTICAL MODELING USING MLR TECHNIQUE OF CPEC ROUTE FOR PRECIPITATION VARIATION AND EFFECT OF CLIMATE CHANGE.


Erum Aamir, NUST, Islamabad, Pakistan

Baluchistan, being the biggest host province of China Pakistan Economic Corridor (CPEC) route is nominated for the study area of this research. Baluchistan, due to its topography, mountains, rugged terrain, coastline, and extreme climate addresses most of the determinants that affect precipitation. This study investigates the trend of precipitation. To carry out statistical analysis (45 years from 1977-2022) monthly precipitation data for selected weather stations along the CPEC route is taken from Pakistan Meteorological Department (PMD). This study contributes to existing studies in many ways, firstly it provides a trend analysis of precipitation on monthly, annual, and seasonal basis, by two methods i) Linear graphs and ii) statistical technique known as Mann-Kendall test. Secondly, it applies Person's correlation to investigate the linear association of Climatic Indices with Precipitation, and lastly Partial Mann-Kendall for observing the impact of teleconnections on precipitation patterns. This study is the first statistical analysis of potential determinants causing precipitation variation. This research will provide a baseline study for future comparative studies tracing the effects of CPEC on Precipitation patterns.

32. CPEC & BRI REGIONAL GAME CHANGERS: SECURITY AND GEOPOLITICAL IMPLICATIONS IN PAKISTAN

Usman Anwar, Dr. Zakir Hussain, Dr. Muhammad Atif, Lahore Leads University; The University of Lahore

Gwadar is poised to play a pivotal role in the development of the China-Pakistan Economic Corridor (CPEC) and the Belt and Road Initiative (BRI). As a strategic asset, these initiatives hold significant economic interests for both Pakistan and China. The CPEC aims to connect the Gwadar port with western China through an extensive network of highways, trains, and pipelines. Gwadar's location makes it crucial for the success of the broader Belt and Road Initiative, which seeks to enhance regional connectivity and foster economic growth across Asia and beyond.



The CPEC and BRI have far-reaching security and geopolitical implications, drawing attention from major nations and regional players. These initiatives have reshaped the geopolitical landscape and provide China with opportunities to bolster its economic and geopolitical influence. For Pakistan, Gwadar serves as a strategic asset that can transform its trade and business environment. Situated at the intersection of vital commercial and energy routes, Gwadar has the potential to connect Pakistan to Central Asia, the Middle East, and other parts of the world. With its deep-water capabilities and strategic location, the port serves as an ideal transit point for international trade and energy supplies through pipelines and other infrastructure.

33. REGIONAL CONNECTIVITY WITH REFERENCE TO THE GEOSTRATEGIC SIGNIFICANCE OF PAKISTAN AND CHINA.

Inayatullah Bhatti, Hussain Ahmed Dal, IBA University BBSIMS Dadu; Shah Abdul Latif University, Khairpur

This colossal work scrutinizes the web of regional connectivity through this glittering project. Further, it has briefed about the Geostrategic Significance of Pakistan and China and how these countries play a key role in illuminating the world. They both (Pakistan and China) are amalgamated into different projects which will bring remarkable changes in the world's infrastructural, economic and societal development not only within the boundaries of South Asia but also beyond the Asian jurisdiction. The ties of different projects will remove the physical and social distances from the different regions of the world. Besides, it furnishes the chances for region-to-region connectivity in the world. Further, it provides the probabilities of the globalized world pragmatically. Moreover, the detail of different projects linked to regional connectivity projects, such as BRI, CPEC, etc., is given in this project. Further, it sheds ample light on the different regions and shows the road map of their connectivity. In addition to this, it has briefed about the Geostrategic Significance of Pakistan and China.



34. GREEN DEVELOPMENT OF PAKISTAN: EXPLORING CHINESE GREEN DEVELOPMENT TO NAVIGATE PAKISTAN'S SUSTAINABLE GROWTH

Usama Khalid, Bahria University Islamabad

Pakistan is facing severe climate challenges, including floods, heatwaves, and droughts that have severely impacted its struggling economy. In order to address these concerns, Pakistan can use China's successful green development initiatives as blueprints in the transition to sustainable development. The purpose of this research study is to investigate how Pakistan might benefit from China's green development model while also aligning CPEC and other projects with environmentally friendly practices. The study also discusses the possible economic and environmental outcomes for Pakistan by transitioning to sustainable development. The study will provide recommendations for sustainable development in Pakistan by analyzing existing regulations, finding flaws and gaps, and comparing them with China's successful green development programs. Expected outcomes include inspiring Pakistan to learn from China's experience, evidence-based policy recommendations, and technical solutions that will support Pakistan's efforts to promote sustainable development. The research intends to boost China-Pakistan collaboration and pave the road for Pakistan to have a greener and more resilient future.

35. SPILLOVERS OF GLOBAL VALUE CHAIN AND ECONOMIC GROWTH OF SAARC COUNTRIES UNDER THE BRI PERSPECTIVE

Bushra Mushtaq, Dr. Muhammad Afzal and Shazia Kousar, Lahore College for Women University; Government of Punjab; Lahore College for Women University

This study examines the impact of the global value chain on the economic growth of SAARC countries under the BRI perspective over the period 1990-2022. It has employed second-generation econometric techniques along with the cross-sectional ARDL model. The Augmented Mean Group and Common Correlated Effects Mean Group models have been used for the robust check. The results show that the BRI initiative led to an increase in forward and backward GVC participation and in the economic growth of SAARC countries. However, due to improper implementation of domestic policies, economic environment, and inadequate absorptive capacity, GVC participation negatively impacts economic growth. The sectoral GVC trade in manufacturing industries positively impacts economic growth while sectoral GVC trade-in service shows a negative association with GDP. SAARC countries can avail potential gains of BRI with the help of policies encouraging GVC participation and strengthening domestic fundamentals.

36. CPEC: AN ALTERNATIVE ROUTE TO ARABIAN SEA FOR REVERSE TRADE BETWEEN CHINA & KSA

Mansour Almuwallad, Muhammad Imran, Binghamton University, USA; Institute of Business Administration Karachi

In forward flow suppliers in country supplies product type A to the customers in other countries and the same containers return to the original destination carrying product type B. The ultimate benefit of reverse forward flow is to ensure minimum cost, maximum revenue, and delivery in shortest span of time. This research comprises of three stages, in first stage, a multi-objective (MILP) Mixed Integer linear programming model is developed. The multiple objectives are total cost of transportation of finished goods, Total time to shipment, and total cost of transportation of returns. To solve the multi-objective optimization, an interactive multi-objective fuzzy programming is introduced in the second phase. The proposed methodology incorporates the expert opinion using fuzzy numbers and measure the quality of objective solution through satisfaction level. Interactive multi objective fuzzy programming aggregates all objectives into a single objective using experts' weights and satisfaction level from payoff values of conflicting objectives. In third phase, a case study of KSA and China for reverse/forward logistic flow will be presented as a practical application of proposed model. The optimal decision of model includes number of containers and ships needed in reverse and forward flow that would minimize cost, maximize revenue, and timely products delivery. This case study also considers alternative routing such as Arabian sea and CPEC corridor between China and Pakistan. The expected results will be useful for the business and logistics manager to design their shipment plans for getting advantages of reverse and forward flow of containers and ships.

37. THE IMPACT OF ARTIFICIAL INTELLIGENCE ON LABOR MARKET DYNAMICS: CHALLENGES AND OPPORTUNITIES

Muhammad Hasanat Khan, Amjid Khan, Mazhar Ali¹University of Engineering and Technology, Peshawar; Oklahoma State University


This study investigates the impact of artificial intelligence (AI) on labor market dynamics, with a focus on the difficulties and possibilities that occur because of the incorporation of AI technology into the workforce. This work contributes significantly to our understanding of how AI shapes the labor market by doing a thorough examination of current literature, empirical evidence, and expert viewpoints. This research paper is significant contributions include identifying critical issues related to AI adoption, such as job displacement and anticipated rises in unemployment rates. This study also emphasizes the transformative influence of AI on existing employment positions as well as the introduction of new roles requiring higher-order abilities, emphasizing the need of skill adaptability. The report also covers the topic of salary inequality emphasizing disparities between AI-related high-skilled jobs and certain job roles experiencing stagnation or decline.

The quantitative research results suggest the possibility of job displacement owing to AI technology, raising worries about reemployment and unemployment rates. The study also indicates the transformation of existing employment as well as the introduction of new roles requiring higher-order abilities, emphasizing the importance of skill adaptability. The qualitative research sheds light on the challenges and opportunities faced by workers, employers, and organizations, with an emphasis on ethical issues such as privacy, bias, and openness.

38. INCLUSIVE ECONOMIC GROWTH PROSPECTS OF CPEC AND BRI UNDER BILATERAL DEBT SWAP POLICY

Umar Suffian Ahmad Sadia Safdar, Muhammad Azam, Federal Urdu University of Arts, Science and Technology, Islamabad; Ghazi University, Dera Ghazi Khan

Inclusive economic growth has a paramount importance for an economy. It fairly distributes economic growth to all sectors equally. In this study we have estimated inclusive economic growth through bilateral debt swap by constructing an index of both variables inclusive economic growth index and bilateral debt swap index. In index construction process, we have used KMO test as measure of sampling adequacy suitable for principal component analysis.



We empirically investigate relationship between bilateral debt swap and inclusive economic growth in BRI region. For this purpose we have applied the advanced methodology Two Step SYS-GMM using annual balanced panel data for the period 2002–2020. Further, in this regression analysis, we have used physical capital, human capital and growth parameter from endogenous growth model key determinant of growth. Results reveal that bilateral debt swap does stimulate inclusive economic growth but with a small proportion in BRI region. It is recommended that policy makers should focus on effective bilateral debt swap policies to enhance the inclusive economic growth in BRI region including CPEC.

39. ROADBLOCKS TO PROSPERITY: CHALLENGES IN REGIONAL CONNECTIVITY THROUGH CPEC'S GWADAR PORT

Memoona Nasir, National University of Sciences and Technology, Islamabad

The Chinese "Belt and Road Initiative" is undertaking the most ambitious project, the China-Pakistan Economic Corridor. The multi-sector investment and infrastructure development project in Pakistan has a budget of \$62 billion. This project could uplift Pakistan's infrastructure and change the outlook of the entire region. In this, the Gwadar Port plays a significant role which will become the future of regional trade. However, there are some challenges to regional connectivity through Gwadar Port. The region's changing dynamics are witnessing some challenges in the form of security concerns, environmental constraints, the role of external elements, and some political constraints, which impede the project from reaching its full potential. The challenges such as the Balochistan Insurgency, and the role of the United States and India impede the peaceful process of this ambitious project. This study uses qualitative methodology to identify the depth of these challenges and give policy options to government stakeholders and policymakers to mitigate the adverse effects of challenges. The success of the China-Pakistan Economic Corridor (CPEC) is crucial for both China and Pakistan. By working together to overcome these challenges, this project has the potential to become the most advantageous economic corridor to date.



40. AN IN-DEPTH ANALYSIS OF THE CITRUS INDUSTRY IN PAKISTAN: PRODUCTION, MARKET STRUCTURE, AND THE IMPACT OF THE CHINA-PAKISTAN ECONOMIC CORRIDOR


Muhammad Waleed Tufail, Syed Akbar Ali, Dr Amir Siddiqui, Pir Kashif Ali, University of Karachi, Karachi

This article offers a thorough examination of Pakistan's citrus sector. The article begins by providing a comprehensive overview of the industry. The importance of the citrus industry to the Pakistani economy and society is highlighted. The microeconomics of citrus in Pakistan, focusing on production, market structure, pricing, profitability, and macroeconomic indicators are discussed in detail this article further discussed The China-Pakistan Economic Corridor's (CPEC). CPEC has the potential to impact the citrus industry. This discussion includes how CPEC involves the construction of transportation infrastructure. This investment can stimulate economic growth and development, which can indirectly benefit the citrus industry. Finally, the article concludes by summarizing the main points and discussing the future outlook for the citrus industry in Pakistan. The article provides recommendations for policymakers and stakeholders to support the growth and development of the industry. Overall, the article, offering valuable insights for anyone interested in the industry's growth and sustainability.

41. DEVELOPMENT OF QUASI-SOLID BLEND ELECTROLYTES FOR DYE-SENSITIZED SOLAR CELLS.

Amina Ishaq, Fareeha Saeed, Nouman Yousaf, Dr. Yasir Qayyum Gill, Umer Mehmood University of Engineering and Technology (UET) Lahore

Conventional silicon solar cells have inherent limitations, including high material and manufacturing costs, as well as reduced efficiency under diffused sunlight and overcast conditions. In contrast, dye-sensitized solar cells (DSSCs) offer the advantage of optimal functionality in such environments, including low light conditions, and the ability to generate power. However, the long-term stability of DSSCs is hampered by the presence of liquid electrolyte. To overcome this challenge, the present study focused on the preparation of polymer gel electrolytes using a solution blending technique. The blends were extensively



characterized using Scanning Electron Microscope. The optimal composition was determined for the electrolyte solution, involving a polymer blend, solvents, and iodine-based salts. It was observed that DSSCs utilizing polymer gel electrolytes exhibited enhanced durability, but slightly lower efficiency (6.90%) compared to conventional cells (7.35%). Notably, solid-state dye-sensitized solar cells maintained consistent photovoltaic performance over a period of 40 days, while conventional cells experienced a significant decline in performance within the same timeframe.

42. US REBALANCING STRATEGY VS CHINA'S BRI: IMPLICATIONS FOR PAKISTAN

Mubashra Shaheen, Quaid-I-Azam Islamabad

The US “rebalancing” strategy primarily aiming at China being world's second largest economy is accompanied with soft power and military modernization. Through rebalancing efforts, the US is trying to exert its influence in Chinese periphery through military, economic and diplomatic moves. Initially, US Rebalance was launched with a strong military impulse and it requires serious move beyond this security genesis. In response to US rebalance Strategy, China adopted a counterbalance strategy Belt and Road Initiative BRI with number of dividends and challenges. With China's fast growing economic development, the US-China relationship has become the most vital universal relationship in the global political landscape. Current advancements in Sino-US relations will have grave implications especially for vital quadrilateral relationship in South Asia including China, India, US, and Pakistan, affecting regional outlook as well as worldwide politics.

43. CHINA'S PORT CITY DEVELOPMENT STRATEGIES – A CASE STUDY FOR GWADAR

Muhammad Jawad Akhtar, Riphah University, Islamabad

This study is aimed to explore the port-city development strategies and policy recommendations for the development of Gwadar port city in Pakistan. Using a qualitative research design, in-depth interviews were conducted with experts from the Gwadar Port Authority, Gwadar Development Authority and CPEC Secretariat. Thematic analysis was employed to identify the key themes and recommendations. Port development strategies documented in the literature as well as all the relevant official documents of Gwadar port projects and plans were also analyzed. Content analysis was carried out to analyze the Gwadar port development projects' successes or lack thereof. The findings revealed that the governance structure of Gwadar needs improvement to ensure effective and efficient development. Short to medium-term executable plans with realistic targets and feedback mechanisms were recommended to complement the long-term plans already proposed. The need for peace and political stability was emphasized as a critical factor for conducive socioeconomic conditions and infrastructure development. Effective marketing strategies were suggested to attract investors and create demand for the mega-projects. Supporting infrastructure for the projects was deemed crucial, and the importance of economic security for these projects was highlighted. Finally, the need for showcasing Gwadar's projects through expos and exhibitions to attract global attention and investments was emphasized. Overall, this study provides valuable insights and policy recommendations for the successful development of Gwadar port city.

44. CHALLENGES TO REGIONAL CONNECTIVITY AND INTEGRATION USA'S CHIP DECOUPLING AGAINST CHINA: IMPLICATIONS ON BRI INITIATIVE

Haadia Riaz, Tayyaba Khurshid, National Defence University; Quaid-e-Azam University

Chips are the backbone of driving industrial and manufacturing automation within BRI projects. Chip decoupling is one of the strategies the USA has adopted to contain the rise of China as chip industry is widely regarded as a critical component of China's rise as a global technological and economic power. China's heavy reliance on imported chips, particularly from the United States, has been identified as a major vulnerability for the country's long-term economic and national security goals. USA is leveraging its technological dominance of chokepoints in the supply chain of semiconductors by choking off China's access to USA's designed software and manufacture equipment – areas where US technology is critical and irreplaceable. Furthermore, efforts have been made to compel other chip-producing states to follow the chip-decoupling policies of the USA against China. The research paper aims to highlight implications of US's Chip decoupling Strategy on China's ability to achieve its BRI ambitions. The paper revolves around the question of how US's chip decoupling is affecting China's capability to accomplish its BRI ambitions. Chinese dependency on other states for advanced semiconductors chips is impeding the quest for the successful development and implementation of the BRI project.

45. SOCIOECONOMIC EXTERNALITIES OF CPEC


Muhammad Ishtiaq, Adnan Khan, Western Michigan University, USA; Ministry of Planning, Development, & Special Initiatives, Islamabad

The China-Pakistan Economic Corridor (CPEC), a flagship project of the Belt and Road Initiative (BRI), has emerged as a major investment in Pakistan, spanning various sectors including power, transportation, infrastructure, and the development of Gwadar port. This study focuses on the socioeconomic impact of CPEC, examining its influence on neighboring districts in Balochistan Province compared to non-CPEC districts. The findings reveal that CPEC projects have the potential to generate positive externalities, improving socioeconomic conditions, particularly in districts closer to the main projects and economic zones. Furthermore, the study highlights the wider economic benefits of CPEC, with estimated GDP increases ranging from \$3.4 billion to \$37 billion and job creations ranging from 0.37 million to 4 million. These findings provide valuable insights into the holistic impact of CPEC, informing policymakers on inclusive socioeconomic policies for both proximate and distant regions affected by CPEC. The study provides valuable insights into the trickle-down effects of CPEC, guiding policymakers in formulating inclusive socioeconomic policies for both proximate and distant areas affected by CPEC.

46. SECURITY DILEMMA IN SINO-INDIAN, INDO-PAK, AND PAK-AFGHAN RELATIONS: A CHALLENGE FOR REGIONAL INTEGRATION AND CONNECTIVITY

M Azam, University, Sargodha, Pakistan

A lack of social and political development mars the region comprising China, India, Pakistan, and Afghanistan. Underdeveloped social and political institutions hamper the development of a culture of peace. As a result, the region's social and international peace lags behind the world's more evolved societies and political systems. Required infrastructures for promoting peace do not exist in all four countries. Institutions dedicated to peace building and peace research are scarce compared to advanced nations. The number of skilled, experienced, and successful peacebuilders and negotiators is also limited. The states and societies have yet to rise above violent local, national, and international conflicts. Most residents and state officials' concerns and considerations in the region still revolve around personal, national, and international security. The Sino-Indian border, or the McMahon Line, is still under debate and




has seen several armed conflicts. The Kashmir issue and breaches on both sides of the Line of Control (LoC) are major contributors to the worsening ties between India and Pakistan. Relations between Pakistan and Afghanistan are also inspired by security, primarily because Afghanistan stopped recognising the Durand Line as an international boundary in 1949 when it revoked all agreements made with British India. The Sino-Indo-Pak-Afghan region is in the midst of a grand security dilemma largely because of the conflictual nature of the international boundaries. The region remains one of the world's least connected and integrated places. Three of the world's largest and most powerful militaries are here due partly to the region's grand security dilemma. This study is intended to examine the nature and characteristics of the multi-dimensional security dilemma and to analyse its implications for regional integration and connectivity in the light of the theory of the security dilemma, a component of the realist approach towards International Relations advanced by John Herz, Robert Jervis, Charles Glaser, Glenn Snyder, and others.

JEL Classification codes: F15, F52, H56

47. OPPORTUNITIES FOR INDUSTRIAL RELOCATION AND EXPORT PROMOTION

Muhammad Gulzar, Federal Board of Investment Islamabad

World has entered into the era of Artificial Intelligence (AI) after evolving through various phases of industrialization. It has started harvesting the fruits of Artificial Intelligence (AI). However, Industrialization still remains, a challenge for developing countries. Pakistan is also striving to uplift its industrial sector by using various developmental policy and administrative tools, however, despite efforts industrial sector is unable to produce surpluses for exports rather it remained unable to fulfil the manufacturing needs of local market as well. Resultantly, gap between the export and import of the country is widening day by day despite efforts of the industrial reforms undertaken by various governments. Industrial sector in Pakistan is facing multiple challenges including administrative, policy and political reasons. However, this country has sufficient space to perform on industrial side as, Pakistan is superbly endowed by the nature and has a huge potential in term of abundance of natural resources, strategic location, GSP Plus status, and a huge market of about 224.78 million



consumers. It has immense volume of Labor Force of about 71.76 million It produces thousands of IT Engineers, medical and technical and other trade professionals every year. This large pool of engineers and professionals having diversified potential can be utilized for industrial development in the country. The country has sufficient advantage for attracting offshore industry as the manpower available here is low cost as compared to other manufacturing destinations. It provides foreign manufacturers convenient access to its local and global markets of Asia, Central Asian Republics, Gulf and European markets through sea and land The only need is to manipulate these resources for the advantage of this nation for economic and industrial development to contribute amply to the economy.

48. PROSPECTS FOR REGIONAL INTEGRATION THROUGH GAWADAR

Muhammad Aslam, Virtual University of Pakistan

Pakistan has been emerging as a convergence point for numerous corridors between the three regions with the involvement of collaboration in the energy sector, shipment trade, transport, and tourism. Gawadar is a place of excessive geostrategic worth, providing enormous promotion to Pakistan's prominence in the entire region, and is an imperious economic and strategic chokepoint that provides unobstructed access to the Indian Ocean. Gawadar being the world's third largest and deep-water Seaport may have been the sole port having the potential of receiving 200,000 tons of supertankers in the region. The reduction of oil resources and increasing energy requirements in the world have intensified the importance of Pakistan to manifolds, as the energy and trading routes from Central Asian Republics (CARs), China, and Afghanistan will have to be passing through Pakistan. This paper makes an analysis of the prospects for regional integration through Gawadar in terms of geographic and commercial collaboration.

49. CHINA'S BELT AND ROAD INITIATIVE AND ITS IMPLICATIONS FOR SOUTH ASIAN REGION

Sawaira Rashid and Muhammad Ikram, Lahore Leads University, Lahore

China's Belt and Road Initiative (BRI) is a global infrastructure development strategy aimed at enhancing connectivity and promoting economic cooperation between China and other countries. The initiative consists of a network of roads, railways, ports, and other infrastructure projects spanning Asia, Europe, Africa, and even parts of the Americas. In this abstract, we will focus on the implications of the BRI for the South Asian region. The BRI holds significant implications for South Asia, a region characterized by its diverse economies and geopolitical complexities. China views South Asia as a vital component of the initiative due to its strategic location and potential for economic growth. By investing in infrastructure projects in South Asian countries, China aims to foster regional integration, boost trade and investment, and extend its influence in the region. One of the key implications of the BRI for South Asia is increased connectivity. China's investments in transportation infrastructure, such as roads, railways, and ports, have the potential to enhance intra-regional connectivity within South Asia and improve linkages with China and other BRI participating countries. Improved connectivity can lead to increased trade and economic cooperation, benefiting countries in the region by opening up new markets and facilitating the movement of goods and services. Additionally, the BRI can help address South Asia's infrastructure deficit. Many countries in the region face significant infrastructure gaps, which hinder economic development and regional integration. China's investments in infrastructure projects, such as power plants, highways, and industrial parks, can contribute to filling these gaps and improving the overall infrastructure landscape in South Asia. However, the BRI also poses challenges and concerns for the South Asian region. One major concern is the potential debt burden on participating countries. Some countries in South Asia have already incurred substantial debt from Chinese loans, raising questions about their ability to repay and the associated economic and political risks. There is a need for careful debt management and transparency in project financing to ensure long-term sustainability and avoid debt-related vulnerabilities. In conclusion, China's BRI has significant implications for the South Asian region. While the initiative offers opportunities for increased connectivity and infrastructure development, it also presents challenges related to debt sustainability and geopolitical tensions. It is essential for South Asian countries to carefully evaluate the costs and benefits of BRI projects and ensure transparency, sustainability, and regional cooperation to maximize the potential benefits while mitigating the associated risks.

50. SIGNIFICANCE OF THE GWADAR PORT AND ITS PROSPECTS FOR REGIONAL CONNECTIVITY


Shehroz Shahbaz, Sindh Madressatul Islam University

The China-Pakistan Economic Corridor (CPEC) is a flagship megaproject and a megaleading plan under China's Belt and Road Initiative (BRI) aimed at enhancing connectivity and promoting economic cooperation between China and Pakistan that will bring economic betterment and lifestyle changes to the people living in Pakistan. The aim of the study is to explore the significance of the Gwadar Port and its prospects for regional connectivity for the sustainable development of Pakistan. The article analyses the prospects of regional connectivity through Gwadar Port of the China-Pakistan Economic Corridor (CPEC) in Pakistan, focusing on regional connectivity such as trade routes, energy connectivity, transshipment hubs, infrastructure development, and regional cooperation, which can improve economic integration, living standards, and stability. The data has also been gathered through the official website of CPEC, books, research articles, journals, magazines, newspapers, and different reports. The results of the study showed that the CPEC has had a transformative socio-economic impact on Pakistan, but to maximise its benefits and address potential challenges, comprehensive planning, effective governance, and active community engagement are necessary. It has the potential to boost regional integration, attract international investments, and promote economic cooperation. This study helps to analyse the prospects of regional connectivity through Gwadar Port for the people of Pakistan.

51. PROSPECTS FOR THIRD-PARTY PARTICIPATION IN CPEC: EITHER IRAN OR AFGHANISTAN

Rashida Anis, Quaid-i-Azam University (QAU), Islamabad

The China-Pakistan Economic Corridor is a platform that welcomes third-party participation. Iran and Afghanistan are both potential possibilities to become a member of the CPEC as a third party. The addition of Iran to CPEC will attract attention since both countries are regional giants that challenge the hegemony of the United States. The "dialogue among civilizations" promoted by former Iranian President Mohammad Khatami and China's five principles of peaceful coexistence both contribute to a stronger connection for regional



peace and harmony. Since Afghanistan is facing severe security and economic challenges which have a negative impact on CPEC. China, Afghanistan, and Pakistan together can make Afghanistan an energy-rich connection between Central Asia and South Asia through security and infrastructure cooperation. Afghan energy and industry may benefit the three nations and help improve the security situation of the region. The present study suggests considering Afghanistan as a third-party participant in the CPEC project at the earlier level and Iran at the later stage would make CPEC a complete success and BRI at large.

52. PROSPECTS FOR IRAN'S PARTICIPATION IN CPEC: AN APPRAISAL

Shabnam Fazal, Shaheed Zulfiqar Ali Bhutto Institute of Science and Technology (SZABIST), Islamabad

China-Pakistan Economic Corridor (CPEC) is visualized as a structural change in China-Pakistan relations and beyond. The corridor has the potential to integrate the Southwest Asian countries under the China's vision of achieving socio-economic growth and accelerated developed through regional integration. China, Iran and Pakistan are geographically important states that are endowed with massive economic potential, and connected through land-route. The overlapping of their economic, strategic and geopolitical interests makes the prospects bright for Iran's participation in CPEC. The participation of Iran in CPEC will have significant impacts on the integration of the region. However, owing to security situation in South Asian region, the success of this cooperation will not be an easy process. Interference of extra-regional actors, sectarian clashes, religious extremism and terrorism are a few but major challenges to the economic integration between China, Iran and Pakistan under the CPEC. The socio-economic factors and internal political instability especially in Iran and Pakistan will also have adverse effects on this joint venture of economic cooperation. The purpose of this paper is to analyze the prospects of Iran's participation in CPEC for the regional integration, and also the challenges to this joint cooperation between the respective countries.

53. SUFISM AND CONFUCIANISM: ROLE IN REGIONAL CONNECTIVITY IN SOUTH ASIA


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Human is a spiritual being. Spirituality has been a matter of interest and concern of human beings in almost all ages and regions. Spirituality is basically the nexus of human soul with the God, fellow human beings and the nature. Sufism and Confucianism are among some of the great spiritual traditions of the recorded history. Sufism, commonly known as Muslim Mysticism, has been playing pivotal role in establishing a vibrant, productive and peaceful society based on the values of human dignity, diversity, mutual respect, and fraternity. Being an esoteric aspect of Islam, Sufi thought believes in human fraternity and integration irrespective of caste and creed. Likewise, Confucianism has been playing the same effective role in the Chinese society although it does not claim to be an organized system of spirituality, but the potential and outcomes of Confucian philosophy, teachings and practices eventually lead to spiritual satisfaction and peace of mind coupled with social integration. Both the spiritual traditions attempt to groom spiritually awakened and socially connected people. This paper is an attempt to explore historic relations between South Asian Sufism and Chinese Confucianism. People of South Asia especially Pakistan and China can equally benefit from the fruits of both spiritual traditions keeping in view the growing link between the people of both countries in almost all walks of life including spiritual traditions. This paper is an attempt to explore, analyze and highlight the common philosophical discourses, teachings and practices of both Sufism and Confucianism for bringing people of both countries closer and enhancing people to people contacts.

54. WEAVING A NEW FUTURE: THE ROLE OF CPEC PROJECTS IN REVOLUTIONIZING TEXTILE INDUSTRY OF PAKISTAN

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The China Pakistan Economic Corridor (CPEC) has emerged as a substantial driver of economic development and infrastructural progress in Pakistan. This research intends to examine how CPEC projects have affected the growth of textile industry in Pakistan. The textile sector is crucial to economy of Pakistan, creating a lot of jobs, exporting goods, and generating foreign currency. The textile sector is anticipated to gain from the massive



infrastructure development under CPEC in terms of enhanced connectivity, decreased transportation costs, and access to dependable energy supplies. The textile sector of Pakistan, which ranks 10th internationally and meets 9% of global textile demand, is confronted with issues including operational competitiveness, energy problems, inadequate infrastructure, and a skilled workforce shortage. These problems, combined with competition from other nations, have resulted in industrial closures and job losses. With the use of resource dependence theory and resource-based theory, the study emphasizes the relevance of transportation facilities, electricity energy, and market accessibility in the growth of textile sector of Pakistan. The findings suggest that CPEC infrastructure projects will improve performance and capacities, resulting in growth and improved output levels. Policymakers are advised to priorities infrastructural improvements to assist the textile industry and to maximize the use of technology.

55. PAKISTAN-CHINA BILATERAL SOCIO-ECONOMIC RELATIONS IN THE NEW ERA

Bushra Hanif, Guangdong University of Foreign Studies

The pak-China relationship has a long live and time-tested history. And has been marked as all-weather friendship between two neighboring countries. There are very strong socio-economic, military, defense, and political relations. Historically, the relationship between Pakistan-China has been strengthened, and the capitals of both countries are tied to maintain stability in their mutual trust and interests. Under the development of China Pakistan economic corridor (CPEC), the flagship of the one belt one road initiative, the cooperation on immersive issues of regional defensive systems in both countries is highly improved. Different prospects of CPEC have been explored such as industrial development initiatives and the influence of CPEC in South Asian regional politics. A high volume of regional socio-economic development is expected which will definitely interfere with the traditional cultural, educational, and economic system. The impact of CPEC on these perils of society is of paramount importance which will decide the future social standards.



56. BUILDING BRIDGES FOR PROSPERITY: PAKISTAN'S REGIONAL CONNECTIVITY AND STABILITY IN CENTRAL ASIA THROUGH CHINA-PAKISTAN ECONOMIC CORRIDOR (CPEC)

Hira Sarwar, Institute of Peace and Diplomatic Studies (IPDS)

The Belt and Road Initiative (BRI) and the integral component, the China-Pakistan Economic Corridor (CPEC), make substantial contributions to regional connectivity. Gwadar Port, a crucial element of CPEC, serves as a gateway and offers a cost-effective trade channel for landlocked Central Asian Republics (CARs) to reach global markets. Thus, establishing marine connectivity in the Indian Ocean is critical to maximizing CPEC's influence on Pakistan's regional connectivity and fostering Central Asian stability. CPEC facilitates regional cooperation, harmony, mutual trust, and shared prosperity. In the context of regional connectivity and stability, this research paper examines the significance of CPEC in promoting economic growth. Using a neo-functionalist paradigm, it will analyse the prospects for Pakistan's regional connectivity and stability in Central Asia through the CPEC. By employing this approach, the paper seeks to explore the potential benefits of CPEC in bridging the gap for prosperity in the region.

57. OPPORTUNITIES FOR INDUSTRIAL RELOCATION AND EXPORT PROMOTION IN PAKISTAN

ERFA IQBAL, Pecking University, China

This paper presents a proposed viable roadmap for future industrialization, one that can serve as a valuable resource for policymakers in Pakistan. The roadmap aims to attract labor-intensive industries relocating from China while promoting global exports. The paper serves as the first attempt to introduce the concept of New Structural Economics for devising an endogenous economic growth model for Pakistan, through CPEC, based on its comparative advantages and endowment factors, leading to robust domestic market development and strong exports. The paper proposes a paradigm shift of policy for the successful implementation of SEZs, taking the lead from China, attractive incentive package, one window operation, human resource development, infrastructure development, institutional strengthening, mobilizing domestic firms, and attracting FDI from China, geared to grab the opportunity of “Latecomer” advantage in the Flying Geese model. JEL Classification B15, F02, O21 and O25.

58. IN THE SHADOW OF OBSTACLES: ADDRESSING THE GEOSTRATEGIC CHALLENGES OF CPEC FOR SUSTAINABLE REGIONAL INTEGRATION


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The China-Pakistan Economic Corridor (CPEC) is a significant undertaking aimed at fostering regional integration and economic cooperation through the creation of an extensive network of infrastructure projects. However, achieving sustainable regional integration through CPEC is beset with numerous challenges. This research paper examines the geostrategic challenges faced by CPEC and explores potential solutions for ensuring sustainable regional integration. The study analyzes the geopolitical complexities, economic considerations, and environmental sustainability concerns associated with CPEC. Additionally, it investigates the security risks, cultural differences, and logistical complexities by applying the regional complex theory because these factors can impact the project's success. Through a comprehensive analysis, this research paper highlights the need for collaborative efforts, strategic planning, and innovative approaches to overcome these obstacles. By addressing these challenges, CPEC has the potential to reshape the geostrategic landscape of South Asia and contribute to a more interconnected and prosperous future for the participating nations. This research aims to provide insights and recommendations for policymakers and stakeholders to navigate the obstacles and realize the full potential of CPEC for sustainable regional integration.

59. GWADAR PORT: EMPOWERING REGIONAL TRADE AND CONNECTIVITY

Muhammad Qadeer Ashraf, Muhammad Waheed Ashraf, BRAC University; Lahore Garrison University

The research paper on Gwadar Port, classified under JEL codes R11, R42, O18, and O21, provides a concise overview of the port's significance as a regional trade hub and its impact on economic growth and connectivity. The examined hypotheses are as follows: R11: Gwadar Port's strategic geographic advantage positively influences regional trade integration. R42: Ongoing infrastructure development at Gwadar Port contributes to trade expansion and economic growth. O18: Development of deep-water berths at Gwadar Port enhances



transshipment operations and facilitates increased trade volume. O21: Improved cargo handling facilities at Gwadar Port reduce processing time and enhance trade efficiency. R42: Establishment of road and rail networks at Gwadar Port enhances regional connectivity and reduces logistical costs. O18: Creation of an industrial park and free zone at Gwadar Port attracts investment and stimulates business growth. These hypotheses align with JEL codes R (regional and urban economics), O (economic development, innovation, technological change, and growth), and their intersection. They provide the basis for analyzing Gwadar Port's impact on regional trade dynamics, economic growth, and connectivity.

60. ON THE INFLUENCE OF CHINA-PAKISTAN ECONOMIC CORRIDOR IN PAKISTAN'S DEVELOPMENT

Dr. Li Jingfeng, Director Of Regional and Strategic Research Office of Sichuan Academy of Social Sciences

The year 2023 marks the 10th anniversary of the launch of the China-Pakistan Economic Corridor. In retrospect, it is not hard to notice how the project structures have evolved over the past 10 years. To summarize, the project structures have developed from singleness to diversity and multi-dimensional. To be precise, there are three aspects which can reflect such diversity: firstly, single infrastructural and energy projects have become multi-economic sectors; in the second place, most projects used to be controlled by state-owned enterprises, however there are more and more privately owned enterprises participating; lastly, more commercial loan facilities are involved in the projects in CPEC. The investment focus of the projects in CPEC is gradually changing, as a result, its impact on Pakistan's economy is also changing constantly. hence, the future role of the CPEC in Pakistan's economic development will continue to grow. This ever growing role of CPEC has a duality effect: on one hand, it will help transform China-Pakistan's political and diplomatic relations into the all-round economic, human, and cultural exchanges at all levels, which can also help build a new economic geography in Xinjiang China. On the other, CPEC caters the needs of Pakistan's economic development, and also resolves Pakistan's domestic energy shortages and boost job creation.

61. CPEC, BRI AND THE INDIAN OCEAN: EMERGING SECURITY CHALLENGES

Rashid Ahmad Khan, Former Professor and Chairman, Department of Political Science, University of the Punjab, Lahore

The deep-sea port of Gwadar on the Arabia Sea coast of Pakistan is the southern terminal of China-Pakistan Economic Corridor (CPEC) passing through the whole length of Pakistan from the city of Kashghar in the Chinese autonomous region of Xinjiang. Lying at the entrance of strategic Straits of Hormuz, Gwadar is located in a region (north-western part) of the Indian Ocean that has played a historic role in determining the shape the Indian Ocean strategy in the modern era of South Asian history commencing with the landing of the first European sailor-Vasco de Gama on the western coast of India in 1498. The strategy first perfected by the Portuguese Admiral Alfonso Albuquerque was based on the control of three important points in the Indian Ocean-Bab al Mandib and the Malacca Straits-controlling the entry into the Indian Ocean from the west and east, respectively; and Ceylon (present day Sri Lanka) which, due to its location in the middle of the Indian Ocean, enjoys a commanding position over the sea lanes, carrying trade goods worth billions of dollars through the Indian Ocean. For about 450 years, this strategy succeeded in preventing the entry of any hostile power into the Indian Ocean challenging the European dominance over the Indian Ocean area. The building of CPEC and implementation of BRI in cooperation with some countries of South and Southeast Asia, is being perceived by the western countries, especially by the US, as a new challenge to their long standing strategic interests in the region. This paper will identify the security challenges in the region and critically examine the relevance of this strategy in the context of the character of Chinese initiatives for economic cooperation with the countries of the Indian Ocean region represented by CPEC and BRI; and the response of the Western countries

62. GREEN TECHNOLOGIES FOR SOCIO-ECONOMIC IMPACTS OF CPEC

Muhammad Zarar, CEO, Geo-Tech Consultancy Services

The integration of Green Technologies and ESG sustainability is crucial for achieving lasting impact and harnessing regenerative AI benefits. However, the China-Pakistan Economic Corridor (CPEC) lacks comprehensive ESG sustainability studies and mainly focuses on economic growth, limiting its full potential. To unlock the corridor's true growth potential and foster a Green Blue Economy involving other nations and the United Nations, a shift towards




sustainable practices is imperative. Green technologies offer a sustainable approach to developmental projects, positively impacting socio-economic aspects. Renewable concepts, particularly renewable energy for energy harvesting, must be at the core of project designs for effectiveness. Embracing green technologies is essential to mitigate climate change and protect the environment from harm. To transform CPEC into a meaningful corridor, a multitude of projects along the route from Kashgar to Gwadar can be initiated, utilizing green technologies to promote circular economies and expand international trade paths. Projects will be planned considering geological, environmental, and social aspects, integrated with generative AI and GIS technology to align with socio-economic parameters. The proper implementation of green technologies will boost production, enhance the national economy, and facilitate exports, leading to the development of further impactful projects. Introducing an International Blue Economic Corridor (IBEC) along the sea route from Gwadar to various global destinations will foster broader international trade, with a significant contribution to Green Blue Technologies due to the sea-based trade volume. Artificial Intelligence (AI) will play a pivotal role in efficiently designing, implementing, and managing green technology projects, increasing success rates, and minimizing negative environmental impacts like carbon emissions. IBEC will serve as a model for a green revolution in the Blue Economy, inspiring other developing countries to adopt sustainable practices and benefit from CPEC & IBEC. By embracing green innovations, technologies, and AI-designed projects, China, Pakistan, and other developing nations can achieve their ESG sustainability goals and contribute to the broader One Belt One Road (OBOR) initiative. This integrated approach fosters sustainable growth and paves the way for a greener and more sustainable future.

63. WILL COLLABORATION WITH CHINA IMPROVE PAKISTAN'S TRACK RECORD WITH SEZS?

Mr. Socrat Aman, GM, Ministry of Industries and Production

Pakistan's economic growth is impeded by an excessive reliance on imports without corresponding growth in exports, leading to a persistent balance of payment deficit. To address this challenge, the government has implemented targeted policy initiatives, including the establishment of Special Economic Zones (SEZs) aimed at fostering export-driven economic growth. SEZs benefit from lenient economic and tax policies to promote industrial development. While initially seen as trade-oriented enclaves, the rationale for SEZs has evolved with globalization to encompass attracting Foreign Direct Investment (FDI) and leveraging global supply chains. However, Pakistan's SEZs have faced limited success primarily due to their narrow objectives and the absence of sectoral policy options and packages. The government's focus on direct benefits, overlooking crucial indirect benefits like technology transfer and export diversification, has further hindered their effectiveness.




Additionally, inadequate legislation, exclusion of the private sector in decision-making, and a lack of domestic linkages have hampered past SEZ endeavors. The China-Pakistan Economic Corridor (CPEC) offers a fresh opportunity for collaboration with China to develop export-oriented manufacturing industries and overcome previous SEZ challenges. The new SEZs under CPEC are expected to create jobs, enhance industrial infrastructure, and integrate domestic value chains into global supply chains. To ensure success, effective management of challenges is vital. This study aims to evaluate the theoretical framework and assess the mismatch between government actions and contextual requirements that hindered previous SEZ establishment. It further examines the nature of collaboration between China and Pakistan in establishing prioritized SEZs under CPEC, evaluating the use of the right mix of theoretical and practical public policy options. Strategic policy directions for SEZ development under CPEC will be provided to guide future efforts. SEZs hold significant potential to stimulate Pakistan's economic activities, and the collaboration with China through CPEC presents a promising opportunity to harness this potential. By addressing past shortcomings and aligning policy actions with contextual requirements, Pakistan can successfully leverage SEZs to bolster economic growth through increased exports and industrial development.

64. PRELIMINARY POTENTIAL EVALUATION OF RARE EARTH ELEMENTS ALONG THE FRAMEWORK OF CPEC, PAKISTAN. A REVIEW

Gull Fatima, University of The Punjab

The China-Pakistan Economic Corridor (CPEC) is a transformative initiative aimed at strengthening economic ties between China and Pakistan through extensive infrastructure and transportation networks. This research study explores the preliminary potential evaluation of rare earth elements (REE) along the CPEC extension, spanning different regions of Pakistan from north to south. The study focuses on the mining, extraction processes, and environmental impacts associated with REEs in these regions. Rare earth elements, consisting of 17 elements from the Lanthanide series along with Scandium and Yttrium, play a crucial role in advanced technology, electronic manufacturing, defense technologies, and renewable energy systems. With the increasing demand for green and recyclable technologies, REEs have become essential components in various high-tech industries. The geological potential of REEs in Pakistan is particularly present in the provinces of Khyber Pakhtunkhwa (KPK), Punjab, and Balochistan, primarily in carbonatites, pegmatites, and placer deposits. In KPK, the Kohistan Ladakh Arc and other regions may contain rare metal



occurrences such as Xenotime and Bastnasite, carrying LREEs and HREEs. In Punjab, Monazite has been identified as a significant source of REEs in the Siwalik sandstones. In Balochistan, geochemical analyses indicate the potential presence of REEs in river sediments, making the region favorable for exploration. The extraction of REEs from ore deposits involves various methods such as open-pit mining, in-situ leaching, and underground mining. With ongoing energy projects related to solar, wind, coal, and hydropower along the CPEC route, the establishment of mining and extraction projects for REEs can be integrated, further enhancing the economic potential of the corridor. Considering China's major stakeholder role in the CPEC, the collaboration between Pakistan and China in the economic and potential evaluation of REEs can be a game-changer, especially for the special economic zones. This study highlights the significance of REEs in the context of CPEC's economic, technological, and sustainable development goals. By leveraging the geological potential and adopting environmentally responsible extraction practices, REEs can become a vital resource for boosting economic growth and cooperation between China and Pakistan along the CPEC route

65. POTENTIAL OF PAKISTANI AND CHINESE AVIATION INDUSTRY UNDER THE UMBRELLA OF CPEC

M o h a m m a d

H a i d e r

H a r o o n

Members Champions of Reforms (Infrastructure & Regional Connectivity- Aviation)

CPEC is a transformative initiative aimed at enhancing economic ties between China and Pakistan through extensive infrastructure and transportation networks. This research study focuses on the strategic port city of Gwadar, located on Pakistan's southwestern coast, to investigate the pivotal role of the aviation industry in maximizing the potential of the CPEC framework. Land-based transportation currently dominates the movement of goods and people between China and Pakistan. However, these traditional conveyance systems are time-consuming and face security challenges posed by local terrorist organizations, particularly in the Gwadar region. To fully unlock the economic potential of this crucial trade area and expedite operations, a paradigm shift towards aviation-based transportation is proposed. The research employs exploratory and descriptive methodologies to assess the feasibility of transforming Gwadar into an aviation-centric port. Insights from interviews with



h aviation professionals and stakeholders, including representatives from international regulatory bodies like ACI, IATA, and ICAO, provide valuable qualitative data. Drawing lessons from successful international sea ports and aviation hubs like Dubai and New York, best practices are identified for adaptation in Gwadar. The envisioned outcomes of implementing aviation-based transportation in Gwadar are multifaceted. By strengthening China-Pakistan aviation relations, progress and prosperity in Gwadar's airspace can be fostered. Developing Gwadar International Airport as a major cargo and passenger hub will attract Chinese investment and facilitate the establishment of startup airlines. This, in turn, will promote tourism and research activities, positioning Gwadar as a long-term destination and facilitating scientific research in maritime and territorial environments. The exchange of aviation knowledge between Chinese and Pakistani professionals will create a collaborative environment, fostering the establishment of aviation academies and schools in the region. Additionally, Gwadar International Airport's evolution into a hub and spoke model, supported by additional regional airfields catering to growing demand, will enable international airlines to invest in maintenance, repair, and overhaul (MRO) services. In conclusion, while substantial progress has been made in the CPEC project, reliance on conventional land routes hampers operational efficiency. Introducing aviation routes and modes of transportation has the potential to revolutionize the CPEC framework, significantly reducing timelines and enhancing connectivity. The aviation industry emerges as a vital driver in unlocking the full potential of the China-Pakistan Economic Corridor. Transforming Gwadar into an aviation-based port can efficiently achieve CPEC's objectives, further strengthening economic ties and propelling regional growth and development



中国-巴基斯坦经济走廊
پاکستان چین اقتصادی راہداری
China Pakistan Economic Corridor

CPEC
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