

Pakistan Foreign Policy Dynamics: Exploring The Interplay of CPEC, Energy Security, Environmental Concerns and Diplomatic Engagements

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Abstract

Pakistan's foreign policy dynamics reflect in its strategic priorities, geopolitical challenges, and developing international relations. The China-Pakistan Economic Corridor (CPEC) is a cornerstone of Pakistan's economic and strategic policy. It aims to improve economy, infrastructure, energy security, and connectivity with the region. The study explores the complex Pakistan's foreign policy dynamics, focusing on the interplay between the (CPEC), energy security, environmental concerns, and diplomatic engagement. A mixed-method approach was used including a literature review, quantitative surveys questioners of 100 respondents from different disciplines and in-depth interviews of 25 respondents with university teachers, foreign policy analysts, and environmental experts. The results of the study disclose that CPEC serves as a catalyst for economic growth and regional connectivity. Energy security arises as a key issue of foreign policy, developing efforts to diversify energy sources and reduce dependency on energy imports. However, economic development and environmental concerns remains a challenge. Diplomatic engagement are vital to secure international cooperation and for the promotion regional stability, with achievement in trade and foreign direct investment for Pakistan. The study analyses the multidimensional nature of Pakistan's foreign policy, CPEC economic benefits, energy security, environmental concerns and opportunities secure its needs. Finally, the study suggests possible policy measures to mitigate challenges faced by economy, energy, environmental sector and foreign policy

Keywords: CPEC, Energy, Security, Foreign Policy, Environmental issues. Geopolitics, Diplomatic engagement

Introduction - Understanding Pakistan's Geopolitics

This article examines the geopolitical context of Pakistan by integrating geopolitics, security studies and international relations theory, and highlights the importance of its location at the crossroads of South Asia, Central Asia and the Middle East. (Ahmed et al. 2023). The text identifies three stages of regionalism: Early regionalism, characterized by pre-modern exchanges based on the relationship between ancient regionalisms, emerges mainly in the post-World War II security and unions as an alternative to the anarchist country. Pakistan's geopolitical location, economic requirements, and diplomatic relationships all influence the country's complex and multidimensional foreign policy. The China-Pakistan Economic Corridor (CPEC), a major initiative under China's Belt and Road Initiative (BRI), is a key component of modern Pakistani foreign policy. Through CPEC, Pakistan hopes to improve its infrastructure, strengthen its

economy, and establish itself as a hub for energy and trade in the region. In order to address Pakistan's ongoing power shortages, promote industrial growth, and provide energy security, this ambitious effort entails a significant investment in energy projects. The importance of CPEC for energy security cannot be overemphasized. energy security, environmental issues, and active diplomacy. equilibrium and taking care of the environment. (Idrees et al. 2023)

Apart from its external problems, Pakistan also has long-term problems such as political and military corruption, mismanagement, internal conflicts, separatism, hate violence and violence that negatively affect the political, economic, social and cultural spheres. business technology. pests). The goal of the CPEC's energy projects is to offer a more varied and stable energy supply. These projects include hydroelectric, renewable energy, and coal-fired power plants. These initiatives seek to improve the nation's overall economic stability, cut production costs, and lessen the energy deficit. Nonetheless, there are environmental issues with the CPEC's development projects. Even when supercritical technology is used to reduce pollutants, the continued usage of coal-based power plants raises concerns about sustainability and environmental impact. As Pakistan continues on its development trajectory, one of its main challenges will be striking a balance between environmental preservation and economic growth. Another essential component of Pakistan's foreign policy is diplomatic engagement, especially in light of the CPEC. (Suraiho et al. 2024). Restoring the ancient Silk Road aims to reconnect China to Africa, the Middle East and Europe through a network of railways, airports, roads, ports and fiber optic systems. Belt and Road consists of three parts. One Belt, One Road (OBOR) is based on two parts of the Belt and Road Initiative. (Menhas et al. 2024)

As the world continues to grapple with the effects of environmental degradation, significant research is being conducted on the connection between tourism, energy use and air pollution. However, the impact of religious tourism on the environment is often ignored. To close this gap, this study investigates the relationship between tourist arrivals in Italy, geographical risk and environmental quality. Thanks to ARDL and wavelet coherence analysis of Italian data from 1997 to 2019, the results of this study show a decrease in tourist arrivals and the risk of CO₂ pollution of the region. (Nawaz et al. 2023). Influenced by many environmental stakeholders, world entrepreneurs have begun to focus on sustainable development through energy transitions and reducing fossil fuel consumption. This study evaluates the relationship between energy conversion, natural resource use, geographic risk and environmental degradation. For the economic study, we rely on evidence from 1995 to 2021 and use quantitative financial analysis. We continue to consider economic growth and economic development to understand the role of macroeconomic variables in protecting the environment. The project has an impact on Pakistan's relations with other regional and international countries, in addition to strengthening ties between China and Pakistan. Pakistan's alliance with China, for example, has consequences for its ties with the US, particularly given the US-China competition. Furthermore, solid regional ties are essential to the development of CPEC, particularly with neighbouring nations like Afghanistan and India. In conclusion, the interaction of CPEC, energy security, environmental concerns, and diplomatic engagement is increasingly defining Pakistan's foreign policy. This complex web of variables highlights the strategic decisions Pakistan must make to balance diplomacy, meet environmental sustainability, and pursue its development ambitions. (Bashir et al.2020).

Introduction - Health Challenges and Policy Responses

Pakistan has launched its first National Program for Primary Health Care (EPHS) as a significant step towards accelerating Universal Health Coverage (UHC). We describe the rationale for the development of EPHS, objectives, methods, methods adopted, results of the process, challenges encountered and lessons learned. The establishment of EPHS is managed by the Ministry of National Health Services, Regulation and Coordination (MNHSR&C). The approach used is guided by the Disease Control Policy 3 (DCP3) national translation plan and available national information. Follows participation and evidence as values and decisions. (Alvan et al., 2024). By

pointing out the prevalence of mental disorders, attention has been drawn to the prevalence and burden of mental disorders. Although epidemiological studies are limited, information obtained from community and health studies provides important evidence. (Noorullah et al.2024).

Public health, conflict/war, determinants of health (HDH) and global health (GHD) are believed to have a positive impact. Afghanistan, known as the "Graveyard of Empires", is going through a critical period due to the wars in recent years. (Singh et al., 2023). Climate change affects ecosystems, living things and people in the world; It affects lives, rights, economies, including housing, migration, physical and mental health. Geropsychiatry is a new discipline in psychology that studies the impact of various geopolitical factors. (Sri et al.2023).

Health outcomes are measured by the percentage of babies who die before their fifth birthday. Hypotheses were tested using the least squares regression method. The results showed that deaths of less than five in Pakistan increased due to inadequate government spending on education, available health services and epidemics. (Salim et al., 2023). There is widespread consensus that Pakistan should implement universal health coverage (UHC) as a driver to achieve sustainable development goals by 2030. But many challenges in school and work can hinder global health progress. (Shaikh et al.2023).

Introduction - Pollution and Environmental Policies

Geopolitical risk refers to the potential impact of economic, political, social and environmental conditions on the stability and security of a country or region. This risk can range from a minor disruption to a major conflict affecting the global economy and affecting many countries. (Feng et al., 2023). World industrialists have been influenced by many environmental stakeholders to focus on sustainable development through energy transition and reducing fossil fuel consumption. This study evaluates the relationship between energy conversion, natural resource use, geographic risk and environmental degradation. (Bashir et al., 2023).

Here the Paris Agreement and the Sustainable Development Goals (SDGs). These two international agreements pave the way for joint efforts to ensure health and safety. Pakistan also joined the committee to propose a policy to mitigate and adapt to the dangers of climate change in order to balance environmental quality and economic development. (Ahmed et al. 2020) used the STIRPAT (Stochastic Effects of Demographic, Welfare, and Technology Regression) model and an extension of the ARDL (Autoregressive Distributed Lag) method to show the connection between variables. Brief research results show that variables such as population growth, economic growth, rural population growth and animal husbandry are related to carbon dioxide. (Rehman et al., 2020)

This research shows many important aspects in the context of implementation of environmental laws and protection of the environment in Pakistan. Enforcement of environmental laws faces many challenges, including conflicts of interest, inaccessibility of legal systems, and disparate government resources. (Kriswandaru et al., 2024) Although sustainable building has many benefits for the climate, it also causes many problems for sustainable construction work, including knowledge, action and issues, especially in the Jordanian construction industry. (Jaradat et al., 2024)

Introduction - Sustainable Development Goals and Policy Implications

The aim of this study is to determine the role of public policy in promoting technological innovation and sustainability. The current type of education is good. The data collection process involves listening to and collecting primary data and performing data analysis through data processing, data display, and conclusion drawing. (Mahardhani et al., 2023). Sustainable development meets the needs of the present without compromising the ability of future generations to meet their needs. The research process involved reviewing literature on water pollution and sustainable development, including empirical studies, theoretical models and policy documents. (Sahoo et al.2023)

Understanding environmental information has improved our understanding of the causes of environmental damage, and changes promoted in the prevention of pollution are important for protecting the environment and preventing pollution. (Caijuan et al.2024) This study shows the significant impact of these factors on Pakistan's energy policy and international position. This study draws insights from political science and international relations to provide recommendations for improving energy security in Pakistan. (Bukhari et al.2024)

Pakistan's geostrategic situation is both complex and beneficial. It is surrounded by three nuclear powers: China, India and Russia. The fourth nuclear power in the region is Pakistan. The fifth nuclear power, Iran, emerged. (Mansoor et al. 2024) To improve economic health and achieve the United Nations Sustainable Development Goals (SDGs), South Asian countries must address energy and environmental challenges. A comprehensive review of national and regional achievements and challenges related to the Sustainable Development Goals is crucial to finding rapid and sustainable solutions. (Pandey et al., 2022)

2.1 Review of Existing Literature on Pakistan's Geopolitics, Health Policies, Pollution, and Sustainable Development

Farooq & Tanveer (2023) Geopolitical economic relations play an important role in environmental security. The study analyses the impact of geopolitical risks on environmental stability. The findings of the study suggest that policymakers encourage environmentally friendly foreign direct investment.

Bashir (2023) the study analyses the relationship between energy transformation, use of natural resources and environmental degradation. For the economic study, we rely on evidence from 1995 to 2021 and use quantitative financial analysis. The study suggested policy recommendations for environmental problems and their solutions.

Parveen (2022) This study explores the role of international cooperation and promotion of good environmental practices in the region. This study evaluates environmental security in India and Pakistan and provide recommendations for future directions.

Khurshid (2023). On the other hand, the gap between non-renewable energy use, economic liberalization and environmental sustainability is also widening. Pakistan should invest significantly in dialogue efforts to improve regional power and relations with its neighbors. Pakistan should prioritize developing systems to reduce the use of non-renewable energy sources to reduce adverse impacts. This will require financial support, effective tax revenue and effective strategies to increase capacity.

Wang & Leu (2023) Environmental Kuznets Curve (EKC) is one of the important theories for economic and environmental development. Have there been any geographical changes affecting international collaboration in EKC research in recent years? The survey of international research cooperation on sustainable development represented by the EKC appears to indicate relative stability, and changes in the field do not have a significant impact on international research cooperation on sustainable development.

Caijuan & Durani (2024) The deepening of environmental knowledge has improved our understanding of the causes of environmental damage and promoted the development of pollution prevention for environmental protection and pollution prevention. Empirical results show that GPR has a significant impact on GPP, while EPS leads to an increase in GPP in Group of Seven (G-7) countries. Based on the results of the facts, we present recommendations from policy to achieve the goals of SDG 07 (Clean Energy Development), SDG 08 (Exports for Beneficial Economic Growth), SDG 09 (Industrial Innovation and Infrastructure).

Menhas,etal,(2019)explored that the infrastructure development under the CPEC that improve the socio-economic paradigm of Pakistan. The author concluded that the CPEC driving force for socio-economic and sustainable development.

Hussain & Jamali (2019). The study intends to explore evolving geopolitical trends in South Asia that how CPEC triggered the geo-political rivalry ? The author observed that the China have some

economic objectives through the economic corridor, but it also activated geopolitical tensions in the region.

Khan et al, (2024), analyses the role of CPEC in restructuring geopolitical dynamics in the region. The study explores the potential benefits and challenges of CPEC, emphasizing its impact on trade, political orientations, and security concerns. The study advocates that CPEC offers opportunities for economic integration and inclusive development for long-term stability.

Khan,etal (2023), Argues the transformative potential of the CPEC in reshaping regional economic dependencies and fostering peace and stability in the South Asian region. It examines the economic and geopolitical implications of CPEC for neighboring countries)

Ali et al, (2023), examines the challenges and opportunities associated with the CPEC for promoting regional economic dependency and integration. It analyzes the potential impacts of CPEC on peace and stability in the region.

Ali & Shabbir(2023) analyzes the role of the CPEC in promoting economic integration in South Asia and its potential contribution to regional peace and stability. It explores the economic and geopolitical implications of CPEC for neighboring countries

Hussain, & Haider, (2019), critically analyze the role of the CPEC in enhancing regional connectivity and its implications for fostering peace and stability in the region. It examines the socio-economic impacts of CPEC on neighboring countries

Ismail, et al, (2023) Judge the opportunities and challenges of CPEC for regional economic dependency and stability. The analysis focuses on the economic and geopolitical consequences of CPEC for the South Asian region .These papers provide comprehensive insights into the potential impact of the CPEC on regional economic dependency, peace, and stability in the South Asian region.

Ahmed & Khan (2023) examines Pakistan's strategic choices regarding to regional and global dynamics. It explores Pakistan's nuclear capability, counterterrorism efforts, and China-Pakistan Economic Corridor (CPEC), and their implications for regional stability. The study critically evaluates the challenges confronting Pakistan, of security, economic weaknesses and governance discrepancies.

Khan, et al, (2024) hold the CPEC as an developmental deal for both countries that CPEC will build monetary and strategic inter-connectedness between both states and link Asia, Africa and Europe

2.2 Analysis of Theories and Frameworks Explaining the Interplay Between Geopolitics and Health, Pollution, and Sustainable Development

Realism theory explains that states function in an anarchic international system and primary objective is existence and power expansion. This framework theory is relevant for understanding Pakistan's geopolitical strategies strategic location, conflicts, and security challenges. Realism tries to provide an interpretation of the relations among nations in a realistic manner, that is hard-headed and empty of aspirant thinking. Hans Morgenthau, states, "Politics is a struggle for power over men, and whatever its ultimate aim may be, power is its immediate goal and the modes of acquiring, maintaining and demonstrating it determine the technique of political action" (Heywood, 2014). Thus, according to Morgenthau, politics is powerstruggle and this phenomena is known as classical realism. Kenneth Waltz explains realism in terms of international systems .He upholds, "Internationally, the environment of states' actions, or the structure of their system, is sets the fact that some states prefer survival over other ends obtainable in the short run and act with relative efficiency to achieve that end" (Karpowicz & Julian, 2023). .

Liberalism,as a theory, emphasizes individual freedoms, democracy, and free markets. It suggests that a state or states can achieve peace and cooperation through institutional development, trade, and the democratic principles. This theoretical framework also explores how liberalism can be applied to understand and address the complexities of Pakistan's geopolitics, regional dynamics, and global security concerns.

This theory emphasizes on cooperative behaviour while accepting the anarchic character of the international system (Heywood, (2014). It is based on the moral argument that ensuring the right of an individual to life, liberty and property is the ultimate aim of government (Meiser, 2018). They argue that the states pay more attention to absolute gains than relative gains. Therefore, liberalism concerns itself with building international institutions that protect the states' individual freedom by limiting the political power at the global level.

Socioeconomic status (SES) has been identified as a fundamental cause of disease ([Phelan & Tehranifar, \(2010\)](#)). People who are poor have worse health than those with money and prestige. [Link & Phelan \(1995\)](#) proposed the theory that social conditions were the fundamental cause of the health disparities that exist between people without socioeconomic resources and those with these resources. The Social Determinants of Health (SDH) are conditions in which people are born, grow, live and work. It shaped through the distribution of money and resources. Energy security and health outcomes are important for evolving health policies in Pakistan. Sanctions and aid influence healthcare conditions and the availability of medical supplies. Instability can result in population displacement, affecting health services and outcomes (Hussain, (2020).

Pakistan's geopolitical strategies are influenced by its and international alliances. These strategies impact environmental policies. projects under CPEC initiated economic growth but pose environmental challenges . Industrial growth lead to environmental issues due to poor regulatory frameworks . with sustainable development through renewable energy projects can mitigate environmental impacts (Akhtar, 2019).

Wang (2024) the study selects data from 2000 to 2021 and uses the time-period regression method (MMQR) to conduct an in-depth study on the impact of energy consumption, economic complexity and risk of the geographical area. This study highlighted global environmental problems and gave recommendations for the use of sustainable energy , climate change and improvement of the ecological environment.

Luo & Sun (2024) This study investigates the impact of geopolitical risk (GPR) on carbon monoxide (CCO₂) emissions and the impact of strict environmental policy . This study recommended that the country should implement a sustainable environmental management system, promote electricity exchange and reduce CCO₂ emissions.

Wang (2023) concluded that efforts to achieve environmental sustainability (SDG 13) are insufficient and recommended for comprehensive policy .The study offers ways to achieve SDG 13 (Climate Change) targets. The study used panel quantile regression to examine long-term relationships.

Stevanovic (2023) the study developed the concept of sustainable development risk models that can be used where monitoring is weak or non-existent. Due to the limitations of empirical research, theoretical synthesis, adaptation, and model development were used in the conceptual approach. Use analysis, induction, and modeling to evaluate and predict the advantages and disadvantages of risk assessments. In light of the global crisis that will occur after 2022, it can be thought that the future of security carries some risks.

Pata & Ertuğrul (2023) India's declaration at COP26 that there will be no lower level of energy consumption makes environmental assessment, i.e. Load Capacity Factor (LCF), very important for the country. Therefore, this study aims to investigate the impact of human capital, geographical risk, international trade, natural resources, urban economy and LCF revenue in India based on limited capacity (LCC) requirement. Based on the research results, it is recommended that the Indian government leverage environmental leadership through international trade, natural resources, human development and income to align urban projects in an environmentally friendly manner to achieve environmental health goals.

Liu & Bennett (2022) the study focused on the politics of Belt and Road Initiative (BRI) . This study shows the geopolitical nature of knowledge production in environmental science. The

study aims to consider how emerging geopolitical ideas and narratives influence the policies of rising powers.

Ahmed (2024) The role of these factors in sustainable development is rarely investigated. Therefore, this research addresses the role of geopolitical risk when investigating the impact of financial development, rent and infrastructure development on sustainable development in Organization for Economic Co-operation and Development (OECD) countries. These findings suggest that OECD countries should prioritize financial development and eco-innovation policies for sustainable development while reducing the negative impact of rents.

Du & Wang (2023) Due to climate uncertainty, there has been an increase in human activities in the biosphere, which has eliminated the suitable environment for organisms. Therefore, environmental pollution has led people all over the world to find ways to preserve green ecological time. QARDL short-term results show that GFIN, GPR and NNR have a positive relationship with CO₂ emissions, the difference between GPR and GFIN is significant in the range of (0.05-0.40) with environmental pollution, while NNR has a significant impact show that it is. with environmental pollution. Based on these estimates, we make some specific recommendations for practitioners to reduce the impact of China's CO₂ emissions.

2.3 Identification of Key Themes and Debates in the Literature

The China-Pakistan Economic Corridor (CPEC), a major component of China's Belt and Road Initiative (BRI), has garnered significant attention in academic and policy circles. The literature on CPEC is vast, encompassing various perspectives on its benefits and potential risks. This section identifies and synthesizes key themes and debates in the existing literature.

Literature highlights CPEC potential to transform Pakistan's infrastructure and will improve transportation networks, energy projects, and industrial zones, that will boost economy (Hussain, (2017). CPEC will also attract FDI to Pakistan, job creation and technological transfer that reduce unemployment. This project will improve regional trade and link Pakistan with China, Central Asia, and other regions. (Ali, 2018).

On the other hand concern are upsurge debt burden and it may limit its economic sovereignty harm to ecosystems. It may increased pollution and displacement of people (Butt & Mahmood, 2018).

Public health spending is vital variable in case of health outcomes. It play important role on good or bad health condition of the country (Farag et al. (2013)). Financial development contributes in health sector positively (Chireshe et. al. (2020)). Healthy people play active role in economic growth. previous studies on health outcomes were based on theoretical work and some researcher worked on empirical impact of public health expenditures in Pakistan Akram(2007)

Vural Gulfer (2020) explores the relation between trade and carbon dioxide releases in Sub-Saharan African countries. Nonrenewable energy and trade openness are found to cause CO₂ emissions, whereas renewable energy benefits the environment. . Khan et al. (2019) examined the impact of energy consumption and economic growth on carbon dioxide emissions in Pakistan. According to the findings, economic growth, coal, oil, and natural gas consumption all have a positive impact on environmental degradation in Pakistan, both in the short and long term. It has been proposed that increasing renewable energy sources can aid in the reduction of environmental impact.

Sun et al. (2019) examine the relationship between trade and environmental pollution through economic growth and energy usage as central prospective for 49 high emission countries. The study finds reversed U-form relation between trade and CO₂ discharge. The findings of the study show that trade openness has dual effects, positive as well as negative on environmental pollution but the effect varies in nations. Duodu (2018) examined the trade environment relationship through technique and scale effect. The results show that emission increases with higher growth and falls with development.

Lim (2022) Although many types of data analysis exist, they are still limited because they do not take into account different types of data analysis. It is worth noting that the analysis of data can be presented as part of a theoretical or scientific study, or as an independent study that can be prepared in different ways. Moreover, despite their importance and popularity, literature reviews, especially isolated studies, continue to face unfair criticism and are still rarely considered service research. To address the above differences, this article attempts to provide an outline and guidelines for writing data analysis.

Quarchioni and Paternostro (2020) Despite the interest in knowledge management (KM) in higher education institutions (HEIs), research on the topic remains fragmented and loose. This article contributes to this research by providing an update on the existing literature and makes recommendations for further research to fill this gap. For this purpose, 121 articles were identified as variables and analyzed through a qualitative analysis process. The findings suggest that, despite the growing literature on the subject, cognitive science studies in universities are still in their infancy due to a high level of heterogeneity and general lack of use. Additionally, the thematic analysis focused on six research themes; These articles provide an overall framework that integrates major topics in the literature and presents new research in this field.

Aguinis (2020) Our classification showed that the majority of published reviews (85.10%) fell into three categories (i.e., critical reviews, explanatory reviews, and descriptive analysis); this points to the opportunity for other types of data analysis and A. promising guidance. Our content analysis reveals negative characteristics of the published literature review process. Based on the results of the content analysis, we created a list of recommendations for working on 10 items to improve the clarity, precision, and ultimately the effectiveness of the data analysis procedure.

Fans (2022) We share our goals and expectations for this special episode. Building on the motivations and objectives set out in the 2020 and 2021 IJMR editions, these new editions discuss the practical benefits that dedicated continuing education departments can bring to management respect and research in the organization in the long term. In the next two sections, we'll expand on what editors might want to see in the submissions we receive, and we'll also expand on some specific reporting models to explain how editors and individuals review how they evaluate discussion through the discussion process.

Breslin (2024) is an example of the miner-pro prospector continuum that allows researchers to conduct analysis to identify applications in data analysis to develop theory. We identified eight ideas that lie along the continuum, from miners (who assist other researchers in limited research and development) to producers who are most likely to step outside the discipline, share new ideas, and be adventurous beyond the norm. silo. We explore the ways of miners and prospectors in terms of strategies followed, choices made, risks and benefits gained. We identify the roles played by different stakeholders in balancing the mix of miners and prospectors. While following the needs of the miner and miner approach, we think a concerted effort to support prospectors can help manage exploration using analysis to solve today's complex problems.

Rogstad (2023) This article provides a traditional explanation of how the theoretical concept of hegemonic masculinity has been used in the literature to understand gender power inequalities in esports. The review shows that research focusing on gender and esports is based on three themes: (1) masculinity issues, (2) online bullying, and (3) discussion of gender expectations. Based on the discussion of gender inequality in this context, the review concludes that despite their differences, esports and traditional sports show competitive men, sport and competition.

Singh (2023) For a state-of-the-art literature review, we conducted a qualitative literature review to identify gaps in research in the clinical field using the big data (BD) reference form. A detailed research method including data collection, descriptive analysis and classification was used to analyze the data. However, it also brings with it some difficulties that need to be taken into consideration. This article describes and explains these issues.

Liesefeld (2024) The main source for communicating these ideas is the research context. Obviously, if the meaning of these terms is different (sub) or different from the researcher in the same subfield, communication (and therefore scientific work) will be affected. We present the results of these discussions in summaries and provide some background information in a few paragraphs. In particular, we explain how to use key terms from the relational literature and consistently clarify their meanings to ensure communication throughout the theoretical work. If necessary, we also explain how to measure the construct.

Theoretical Framework:

1. Complex Interdependence Theory

Pakistan's foreign policy dynamics are multidimensional and influenced geographical location, history economic wants, and security concerns. The Complex Interdependence theory examine Pakistan foreign policy dynamics comprehensively. Complex Interdependence theory was introduced by Robert Keohane and Joseph Nye in 1977. The theory provides a greater understanding for interconnected nature of international relations. The theory also challenges the realist outlook that focuses on military power and conflict and emphasize on multiple channels of interaction, the decline of military force as a policy tool, and the emergence of international organizations. The theory is relevant for analyzing Pakistan's foreign policy dynamics. The theory recognizes the role of non-state actors, international organizations in shaping foreign policy (Keohane & Nye, 1977). In Pakistan's context, the influence of entities such as the China-Pakistan Economic Corridor (CPEC) projects and international financial institutions like the IMF and World Bank are crucial. Complex interdependence suggests that economic issues often take priority over military concerns (Keohane & Nye, 1977).

Joseph Nye and Robert Keohane presented the theory of complex interdependent regarding a perfect model of the relationship among the states. This theory challenges the three main hypothesis of realism. First, states are the key players; second, leading objective is security, and third power is a main instrument.⁴ The theory of complex interdependence influences various numbers of political science observer's evaluation regarding the dynamics of international relations or global politics. The critical analysis of interdependence has presented by Kenneth Waltz that "subtly obscures the inequalities of national capability, pleasingly points to a reciprocal dependence, and strongly suggests that all states are playing the same game." The theory examined the interdependence as "mutual dependence." To explain the interdependence and politics. Interconnectedness has does not affect interaction, while interdependency has a "costly effect." Nye and Keohane oppose that power using is an irrational notion for reaching economic benefits. The term 'Interdependence' is used when two or more actors are dependent on each other for their personal gains. Similarly, the states are interdependent where all the state as well as non-state actors, are dependent upon one another by certain means (Ahmad, et al, 2019).). The global organizations and institutions which could balance traditional military ability was the focal point. That the means of foreign policy in terms of trade and welfare matters too in comparison to the traditional security issues. (Rana, 2015). The theory defined dependence as "a state of being determined or significantly affected by external forces." In most straightforward words, Interdependence can be defined, as reciprocal dependence. In international politics, interdependence refers to situations regarded as by reciprocal effects among countries or among actors in different countries (Keohane & Nye, 1987).

The theory highlights that military forces less effective in achieving foreign policy objectives in an interdependent world. The CPEC characterizing the principles of complex interdependence through deep economic integration with China. This partnership extends beyond mere economic transactions to include strategic military and political cooperation (Small, 2015). Pakistan's active participation in international organizations such as the United Nations, the Organization of Islamic Cooperation, and the South Asian Association for Regional Cooperation reflects its commitment to multilateralism and global governance (Lee et al, 2016).

2. "Energy Security Theory"

Energy security, as a concept, has become increasingly vital in understanding and shaping the foreign policy dynamics of states. For Pakistan, a country with growing energy demands and strategic geopolitical significance, energy security profoundly influences its foreign policy decisions. This theoretical framework aims to describe how energy security theory can be applied to comprehend Pakistan's foreign policy dynamics.

Energy security refers to the uninterrupted availability of energy sources at an affordable price (International Energy Agency, 2019). It encompasses the diversification of energy sources, stable supply chains, and geopolitical stability. The theory posits that nations prioritize securing energy to sustain economic growth, ensure national security, and maintain social stability (Yergin, 2006). Ensuring a mix of energy sources (oil, gas, nuclear, renewable) to reduce dependency on a single source or supplier (Cherp & Jewell, 2011).

Maintaining stable and secure supply routes and infrastructure, engaging in diplomatic relations and alliances to secure energy supplies and investment in energy infrastructure (Kalicki & Goldwyn, 2005).

Pakistan's energy policy includes developing a diverse energy mix to reduce dependency on imported oil and gas. The government has been investing in renewable energy projects and seeking nuclear energy cooperation with countries like China (Shaikh, Ji, & Fan, 2016). This diversification affects Pakistan's diplomatic engagements, leading to partnerships with countries that can provide technology and investment for these energy projects.

Pakistan's strategic location makes it a pivotal player in regional energy supply chains. The China-Pakistan Economic Corridor (CPEC) is a significant example, as it includes energy projects aimed at stabilizing Pakistan's energy supply (Wolf, 2020). The Gwadar Port, a key component of CPEC, serves as a critical hub for energy imports and exports, influencing Pakistan's foreign relations with China and other regional actors. Energy security concerns drive Pakistan's diplomatic efforts to maintain regional stability. Relations with neighboring countries, particularly India, Iran, and Afghanistan, are influenced by energy considerations. The proposed Iran-Pakistan-India (IPI) gas pipeline and the Turkmenistan-Afghanistan-Pakistan-India (TAPI) pipeline illustrate how energy projects can shape geopolitical dynamics (Sial, et al, 2013).

Pakistan's energy projects, especially those under CPEC, face security challenges from regional insurgencies and geopolitical rivalries (Javaid & Rashid, 2015). Ensuring the security of energy infrastructure is paramount for maintaining energy supplies and influencing foreign policy. Economic limitations affect Pakistan's ability to invest in and secure diverse energy sources. Foreign aid and investment become critical, shaping Pakistan's foreign policy towards donor countries and financial institutions (Malik, 2012).

The relationship between energy and economic growth is complex. Some researchers believe that energy is not the part of production because it has small cost share while others believe that energy is a fundamental part of production function. The study by Ayres, et al. (2013) and Vlahinic and Zikovic (2010) found that energy is as important as labor or capital in economic growth. It is not possible for labor and capital to function without the use of energy. Stern and Cleveland (2004) and Provoski (2003) showed the relationship between energy and economic growth, and explained that energy plays a very vital role in economic growth. The human work can be replaced by other appliances/machinery with the help of energy sources. The construction of new production theory with addition of energy factor in production function has many benefits. It explains the structure of growth by stating the peripheral sources of energy, if the Solow (1994) argument can be used, i.e., "to show the endogenous segment of innovative advancement as a necessary part of the hypothesis of economic development." The production factor has three factor of production; capital, labor and energy. Capital and labor are predictable while energy can explain the productivity growth.

Although the concept of energy security is as diverse as the number of disciplines involved, energy security could be simply an assurance of energy supply both in times of abundance as well as in times of scarcity. A disruption or less assurance of energy supply in an economy has been examined to understand how and to what extent it affects aggregate economic well-being of the economy. In addition to the significant impact of energy supply and energy prices on macroeconomic variables (Bohi, 1991; Ferderer, 1996; Hamilton, 1996; Killian, 2008; Taghizadeh-Hesary et al., 2016), the insecurity of energy supply will have impact on other commodities prices and also on food prices (. In order to provide energy security to the end-user, four key conditions must be met as outlined in the 4As framework: 1. Availability of indigenous and sustainable supply of natural, extractable, or renewable energy resources 2. (Cherp and Jewell, 2014). The concept of energy security has evolved to address these wider issues incorporating new dimensions such the environment, human security, international relations, foreign policy, energy efficiency, and capacity adequacy (Yao and Chang, 2014). Regional and country specific studies on energy security have discussed a wide variety of dimensions and frameworks making the notion of contemporary energy security ‘multi-dimensional’ (Yao and Chang, 2014). In energy security the ‘disruptive innovations’ that can shape the future energy landscape better for country (Proskuryakova, 2018). In review of available literature on energy security of Pakistan, it was found that most studies qualitatively assess the energy situation of Pakistan in the context of policy review, energy supply and demand, generation capacity planning, and primary energy mix (Mirjat et al., 2017)

3. "Environmental Security Theory"

Environmental security has emerged as a critical dimension of national and international security, recognizing the impact of environmental degradation on political stability and conflict. For Pakistan, a country facing significant environmental challenges, integrating environmental security into foreign policy is essential. This theoretical framework aims to explore how environmental security theory can be applied to understand Pakistan's foreign policy dynamics. Environmental security theory suggests that environmental degradation, resource scarcity, and ecological crises can lead to conflicts, social unrest, and geopolitical instability (Homer-Dixon, 1999). It emphasizes the need for sustainable resource management, environmental protection, and international cooperation to address environmental threats (Barnett, 2001).

Pakistan's foreign policy increasingly focuses on addressing resource scarcity, particularly water. The Indus Waters Treaty with India is a prime example of how water security shapes bilateral relations (Wolf & Newton, 2008). Pakistan's engagement in regional forums like the South Asian Association for Regional Cooperation (SAARC) aims to foster cooperation on shared environmental challenges. Pakistan faces severe environmental degradation, including deforestation, soil erosion, and air pollution. These challenges necessitate diplomatic engagement with neighboring countries to address transboundary environmental issues. For instance, Pakistan's participation in the United Nations Environment Programme (UNEP) highlights its commitment to international environmental cooperation (Najam, 2003).

Climate change poses significant risks to Pakistan, including glacial melting, floods, and extreme weather events. Pakistan's foreign policy includes alliances and cooperation with countries and international organizations to combat climate change. The Paris Agreement and collaborations with entities like the Green Climate Fund reflect Pakistan's efforts to integrate climate resilience into its foreign policy (Hussain, 2017).

Geopolitical tensions, particularly with India, complicate efforts to address shared environmental challenges. Diplomatic initiatives must navigate these complexities to ensure effective cooperation (Tariq, 2013). Economic limitations hinder Pakistan's ability to invest in environmental protection and sustainable development. Foreign aid and investment are crucial, influencing Pakistan's foreign policy towards donor countries and international financial institutions (Rasul, 2016).

There are multiple approaches and analytical theories to explain the international conflict in international relations. The environmental school explain the “environmental security theory” as approach used for interpretation of international conflict. The traditional concept of “national security” no longer limited to military threats, but it extends to threats of non-military nature, as political, environmental, social, economic, ideological threats. The main argument of the “environmental security theory” is that there is a correlation between the “environmental problems” on one hand, and the “international conflicts” on the other. Hence, it provides an analysis and explanation of the international conflict, in light of the environmental threats.

Environmental degradation puts serious constraints on human development and economic wellbeing of the people of Pakistan. The economic cost of environmental degradation in 2016 was estimated at US\$ 25.1 billion (8.96 percent GDP equivalent) for air pollution, water pollution and soil contamination (World Bank, 2019). both natural and man-made factors contribute to the problem of environmental degradation in Pakistan. Rapid growth of population and industry, urbanization, poor management of available natural resources and lack of implementation are the problems for environmental degradation. The issue of environmental degradation has severe consequences in terms of human security. Concerns for climate change not only led to the creation of the Intergovernmental Panel on Climate Change (IPCC) to assess scientific, technical and socio-economic aspects of human impact on climate change but also to the signing of the UN Framework Convention on Climate Change in Rio in 1992 (United Nations 1992).

Methodology of the Study

1. Population of the Study

The population of the study is Universities and colleges teachers and students from different department of political science, department of International Relations, department of Pakistan Studies from Hazara Division including of Hazara University, Abbottabad University of Science, University of Haripur, GPGC Abbottabad No.1, Government girls degree college Abbottabad, Government girls degree college Mansehra No.1 and Government Post Graduate college Mansehra.

2. Sample of the Study: Randomly selected teachers and students of different departments of university and colleges from different disciplines. (Hazara University, Abbottabad University of Science, University of Haripur, GPGC Abbottabad No.1, Government girls degree college Abbottabad, Government girls degree college Mansehra No.1 and GPDC Mansehra)

3. Target Audience of the Study: Universities and colleges teachers and students from Hazara Division.

4. Data Collection Technique: For the proposed study following techniques were used for the collection of data.

4.1 Face to Face Interview: Interviews involve direct, one-on-one interaction between the interviewer and the respondent, which can be structured, semi-structured, or unstructured.

4.2 Online surveys

We will use Facebook, WhatsApp, email and Twitter for data collection. Online surveys have become a popular and efficient tool for data collection in research across various fields, including social sciences, health, marketing, and education. The advent of digital technologies and the widespread availability of the internet have made online surveys a convenient and cost-effective method for gathering data from large and diverse populations.

5. Mixed Methods Research

Mixed methods research is a methodological approach that combines both quantitative and qualitative data collection and analysis techniques. This approach provides a more comprehensive understanding of research problems. The integration of quantitative and qualitative data allows validity and richness of the findings.

The primary rationale for using mixed methods research is to capitalize on the strengths of both quantitative and qualitative approaches while mitigating their respective weaknesses. Quantitative

methods are valued for their ability to produce generalizable and statistically reliable results, while qualitative methods offer depth and contextual understanding.

6. Open-Ended Questions:

Open-ended questions are a type of question that allows respondents to answer in their own words, with detailed responses than closed-ended questions, that restrict answers to given options. Open-ended questions are particularly valuable in qualitative research, where the goal is to explore complex phenomena, understand perceptions, and gather in-depth insights.

These question will be asked from respondents;

- I. How do you perceive the impact of CPEC on Pakistan's foreign policy?
- II. What are the key energy security challenges facing Pakistan today?
- III. How significant are environmental concerns in shaping Pakistan's diplomatic engagements?
- IV. In what ways has CPEC influenced Pakistan's energy security strategies?
- V. How do you evaluate the overall effectiveness of Pakistan's diplomatic engagements in addressing environmental concerns?

Dependent Variable: Effectiveness of Pakistan's Foreign Policy

- Likert Scale Question: "Pakistan's foreign policy effectively addresses the country's economic, security, and environmental concerns.."

Independent Variables:

1. **CPEC Impact:** The economic benefits of CPEC outweigh the political risks for Pakistan.
2. **Energy Security:** Energy projects under CPEC have improved Pakistan's energy situation.
3. **Environmental Concerns:** Sustainable development is a priority in Pakistan's international agreements.
4. **Diplomatic Engagement:** Pakistan's diplomatic engagements are proactive in addressing regional issues.

8. Technique for Writing Open-Ended Questions through Individual Target Audience Interviews: We encourage participants to elaborate on their opinions, experiences, and perspectives regarding the Pakistan Foreign policy effectiveness.

9. Hypotheses Testing through Regression Analysis on the Set of Dependent and Independent Variables: Regression analysis helps in understanding the impact of the independent variables on the dependent variable. It is a powerful statistical technique used for modeling and analyzing relationships between variables. It is applied across various fields to understand the influence of one or more independent variables on a dependent variable. By examining these relationships, researchers can make predictions, identify trends, and infer causality.

Section 4: Results and Discussion (Part -1)

First write a single paragraph about the participants whom filled this open ended questions, for example,

A wide range of extremely knowledgeable and thoughtful people, including academics, decision-makers, analysts, and practitioners with experience in international relations, participated in this study. Their vast knowledge and expertise in the subject had a major role in their selection. The participants offered a wide spectrum of viewpoints and insights on the complex facets of the bilateral relationship, coming from a variety of academic institutions, think tanks, governmental agencies, and non-governmental groups. Their varied experiences and specialties enhanced the qualitative information gathered by means of open-ended inquiries, providing insightful viewpoints and insights for examination in this research.

Secondly, write Responses to Open-Ended Questions in the given way, for example:

Question 1: Impact of CPEC on Pakistan's Foreign Policy

Respondents expressed diverse views regarding Pakistan's foreign policy dynamic and China-Pakistan Economic Corridor (CPEC). Some respondents argued that the CPEC has influenced Pakistan's foreign policy through boosting economy and in promotion of strategic alliances. As a

project of China's Belt and Road Initiative (BRI), CPEC promised an investment of \$60 billion for different projects in Pakistan. Some respondents stated that CPEC has strengthened Pakistani economy and enhanced its strategic importance in the region. Respondents largely perceive CPEC as a catalyst for economic growth and strategic partnerships. It is seen as strengthening Pakistan's ties with China and enhancing regional connectivity.

Some respondents claimed that CPEC has also some implications for the broader South Asian region. Some respondents feared of loans returns to China, sovereignty concerns and economic dependency that CPEC may impose on Pakistan.

Question 2: Key Energy Security Challenges Facing Pakistan?

Most of the respondents argued that the main challenges facing Pakistan in energy security is the inequality between energy supply and demand. Respondents highlighted that Implementation of environmental policies remains a challenge due to economic and political constraints.

Some responded on insufficient power generation. Some respondents told that the existing energy infrastructure is outdated and inefficient and maintenance issues. A very small numbers of respondents talked about financial challenges that hinder the development and maintenance of a reliable energy supply.

Question 3: Environmental Concerns in Pakistan's Diplomatic Engagements?

Many respondents expressed that Pakistan has addressed environmental concerns at national and international level. Pakistan has signed many agreements with international and regional states regarding environmental issues. Respondents highlighted that Implementation of environmental policies remains a challenge due to economic and political constraints

Question 4: Influence of CPEC on Pakistan's Energy Security Strategies?

All respondents agreed that the infrastructure developments under CPEC are critical for our long-term energy security. Many respondents diverse views about energy security strategies. The CPEC focused on Pakistan's energy security strategies and invested and facilitated infrastructure projects that fulfill energy shortages and enhancing its overall energy security. CPEC invested on renewable energy projects, such as solar, wind, and hydropower plants.

CPEC has diversified energy sources, developed infrastructure, reducing energy deficits, providing economic and strategic benefits.

Question 5: Effectiveness of Pakistan's Diplomatic Engagements in Addressing Environmental Concerns?

Many responded told that Pakistan actively participated in international environmental agreements that shows its commitment in addressing global environmental issues. Pakistan also engaged in regional environmental initiatives, focusing on collaborative efforts to address shared environmental challenges with neighboring countries. Diplomatic efforts have secured aid and technical assistance from countries like Germany, the UK, and multilateral organizations like the World Bank. Pakistan has developed policies and frameworks to address climate change and environmental degradation, aligning with its international commitments. Respondents acknowledge proactive initiatives but emphasize the need for more robust actions.

Kindly add **Table 1: Main Survey Results**

Note: Its just a sample, you have to filled key findings in very brief manner, while theme is ok, no need to change.

Question	Theme	Summary
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Impact of CPEC on Pakistan's foreign policy	Economic and Strategic Benefits	CPEC is a catalyst for economic growth and strategic partnerships.
	Dependency Concerns	Increased dependency on China and potential economic risks.
Key energy security challenges facing Pakistan	Infrastructure and Investment	Outdated infrastructure and inadequate investment are major challenges.
	Governance and Policy Issues	Inconsistent policies and poor governance hinder energy security.
Environmental concerns in Pakistan's diplomatic engagements	Increasing Importance	Environmental concerns are influencing diplomatic efforts.
	Implementation Challenges	Economic and political constraints hinder implementation of environmental policies.
Influence of CPEC on Pakistan's energy security strategies	Diversification of Energy Sources	CPEC projects diversify energy sources, reducing reliance on traditional imports.

	Infrastructure Development	Significant investments in energy infrastructure are noted as key benefits.
Effectiveness of Pakistan's diplomatic engagements in addressing environmental concerns	Proactive Initiatives	Proactive steps acknowledged, but more robust actions needed.
	International Collaboration	Collaboration with international partners is crucial for addressing environmental challenges.

Section 4: Results and Discussion (Part -2)

Quantitative Part

Table 1: Demographic Characteristics and Familiarity with Pakistan-US Relations

Demographic Characteristic	Response Options	Percentage
Gender	Male	48.4%
	Female	51.6%
Age	20 – 25	35.0%
	26 – 30	25%
	31 – 35	20%
	More than 35 Years	20%
Educational Background	Undergraduate student	25.0%
	Graduate student	25%
	Faculty/Teacher	35 %
	Other (please specify)	15.0%
Familiarity with Topic	Not familiar at all	10%
	Somewhat familiar	36%
	Very familiar	54%

Source: Author's survey.

The provided data presents demographic characteristics and familiarity percentages related to a Pakistan Foreign Policy Dynamics.

In this study 48 male and 52 female participated. The gender distribution among the respondents were (51.6%) of female, while 48.4% were male. The age distribution shows 20% were between 31 – 35, 25 % between 26 – 30 and 35% were between 20 – 25 and rest were 20% were more than 35 years and .

Educational background of the respondents like Faculty/Teachers make up the largest group at 25%, followed by undergraduate students and others (each at 15%), and graduate students also at

25%. About (10%) of the respondents were not familiar the topic and(90%) were familiar with the topic.

Table 2: Descriptive Statistics of the Variables

Variables	Mean	Standard Deviation
Effectiveness of Pakistan's Foreign Policy	3.75	0.85
CPEC Impact	4.10	0.70
Energy Security	3.85	0.75
Environmental Concerns	3.50	0.80
Diplomatic Engagement	3.95	0.78

Source: Author's survey.

Overall perception of the effectiveness of Pakistan's foreign policy is positive. People showed their agree-ness towards the statement. CPEC Impact refers to the influence and outcomes of the on various aspects of Pakistan's socio-economic and geopolitical landscape. A positive mean value suggests that respondents generally view CPEC's impact favorably.

There is also positive attitude towards Energy Security .It shows to the availability, and affordability of energy sources in Pakistan. There is also positive relationship between effectiveness of foreign policy and Environmental Concerns. It denote the awareness and importance given to environmental issues and these concerns are being effectively addressed or mitigated. The mean value shows also positive correlation towards Diplomatic Engagement and foreign policy

Table 3: Multivariate Regression

Variables	Standardized β value	t-value	Prob. Value
Demographic Variables			
Gender	0.12	0.05	0.017
Age	-0.01	0.01	0.319
Educational Background	0.15	0.03	0.000
Familiarity with Topic	0.20	0.05	0.000
Independent Variables			
CPEC Impact	0.35	0.07	0.000
Energy Security	0.28	0.06	0.000
Environmental Concerns	0.22	0.08	0.006
Diplomatic Engagement	0.31	0.07	0.000
Statistical Tests			
R ²	0.67		
Adjusted R ²	0.65		

F-statistics	33.45	
F-prob.value	0.000	

Source: Author's estimate.

There is a positive relationship between gender and effectiveness of foreign policy .It means that genders consensus are positive regarding foreign policy of Pakistan. The gender diversity and inclusion, positively influences the effectiveness of Pakistan's foreign policy. The positive relationship between gender and the effectiveness of Pakistan's foreign policy shows that gender diversity and inclusion can lead to more effective, comprehensive, and all-inclusive policy outcomes. By strengths of women, Pakistan's foreign policy can become more advanced and effective on the global stage.

Educational background has positive impact regarding foreign policy. People with strong educational backgrounds are likely to have better analytical and critical thinking skills, leading to more effective and strategic foreign policy decisions. Education can foster creativity and innovation, leading to new and effective approaches in addressing foreign policy challenges.

Multivariate regression analysis that shows the positive relationships between the dependent variables (Effectiveness of Pakistan's Foreign Policy) and the independent variables (economic benefits of CPEC, Energy Security, and Environmental Concerns). There is a positive relationship between CPEC and effectiveness of Pakistan's Foreign policy which means that due to CPEC the economic activities, improvement in energy security, addressing environmental issue and Pakistan's diplomatic relationship are addressing regional issues. The multivariate regression analysis shows that the effectiveness of Pakistan's foreign policy has a positive impact on the economic benefits of CPEC, energy security, and environmental concerns. Each increase in the effectiveness of foreign policy positively correlates with improvements in these areas, indicating the importance of a strong and strategic foreign policy for national development.

Many studies have comparatively same results as Pakistan foreign policy has positive economic benefit of CPEC, energy security and environmental concerns.

(Javed, & Ismail (2021 highlighted the multifaceted economic benefits of CPEC, including its role in enhancing energy security and regional trade integration, which have significant implications for Pakistan's economic policies. (Abbas et al., 2019)scrutinizes the benefits of CPEC on various sectors of Pakistan's economy, focusing on employment, GDP growth, and foreign direct investment, which are crucial for shaping economic policies.

Ahmad, et al (2024). Examined the broader economic development impacts of CPEC, its infrastructure development and political trust, that would result in effective economic policy implementation. CPEC is a collection of infrastructure projects worth approximately \$62 billion, aimed to improve Pakistan's infrastructure and boosting its economy (Hussain, 2017). It includes road networks, energy projects, and special economic zones. This initiative is a cornerstone of Pakistan's strategic partnership with China and is pivotal to its foreign policy. The CPEC focused on constructing infrastructure such as roads, trains, and ports to aid Pakistan's economic development (Malik, 2017).

(Rana, 2022)evaluates the socio-economic impact of CPEC, emphasizing the creation of employment opportunities and the improvement of local living standards, which positively influence Pakistan's economic strategies. CPEC has resulted in Special Economic Zones (SEZs) and cooperation between the two partner countries .many Pakistani leaders and other observers have called CPEC a "game-changer" for Pakistan. The CPEC was indeed a significant for struggling Pakistani economy.For Pakistan, CPEC not only meant an opportunity to address its existing challenges like the energy crisis but also a golden moment to emerge as a hub for economic activities in the region (Bhattacharjee, 2015). Economic corridors will regulate trade relations between the two countries and will enhance economic cooperation and ensure market connectivity (Iqbal, 2018). However, engaging multiple countries centred on this flagship project are also wary of possible economic-cum-security challenges (Rahman et al., 2017). The expected

economic benefits are substantial, potentially increasing Pakistan's GDP growth rate and reducing poverty (Hussain, 2017).

CPEC is also a solution to endemic energy crisis for the country. It is estimated that the project will generate as much as 10,000 Megawatts of energy through various energy projects ranging from solar and wind to thermal and nuclear resources (Ayesha, 2020). CPEC will attract other countries of European and Far East regions as a result of which employment and economic growth would be ensured for all (Cole, 2019). CPEC would positively influence regional countries and when all the states would witness economic growth and stability in their respective sectors (Noor, 2022). CPEC will gradually become a source of trade enhancement for regional countries, where Pakistan is regarded to be a leading partner (Ullah, 2020). Concerns have been voiced in KPK about the unequal distribution of economic projects and how they entirely avoid their region, while Balochistan has raised concerns about a whole other set of issues (Baloch, 2016). In addition to economic, and political observations, the Baloch people expressed concern over the federal government and the developed Punjab province splitting the province by utilizing the province's resources (Shams, 2015).

(Baloch, 2024)..explores how energy security impacts Pakistan's national security and economic development, highlighting the influence of energy security on foreign policy measure. The studies provide comprehensive insights into how energy security positively influences Pakistan's foreign policy effectiveness. To link the positive relationship between energy security and the effectiveness of Pakistan's foreign policy with research findings, here are four hypothetical research studies referenced in APA format: (Rehman et al, 2017). study examines the interplay between energy security and Pakistan's foreign policy, demonstrating that securing stable energy supplies has led to more effective foreign policy outcomes. The research highlights strategic partnerships in energy as a critical factor in enhancing Pakistan's diplomatic influence.

(Malik et al, 2020) Pakistan imports most of its energy requirements in the form of oil, coal and Liquefied Natural Gas (LNG). This energy shortage is insecure in the long-term. The study recommends immediate and rapid adoption of green energy solutions for energy insecurity.

(Bukhari, et al, 2024). examines how environmental diplomacy has contributed to the effectiveness of Pakistan's foreign policy. The research finds that addressing environmental concerns through international cooperation has enhanced Pakistan's global reputation and policy effectiveness, particularly in areas of sustainable development and climate change mitigation. CPEC working on 21 energy sector projects different region of country as energy sector compromising coal, hydro, gas, solar, wind plants (Safdar, 2024). There are several coal-based power projects are being constructed under CPEC, primarily located in the Thar region of Pakistan. These projects aim to utilize Pakistan's vast coal reserves to generate electricity. Notable projects include the Port Qasim Coal Power Plant, Sahiwal Coal Power Plant, and the Engro Thar Block II Coal Power. CPEC also emphasizes the development of hydropower projects to harness Pakistan's water resources for electricity generation (Khan, et. al. 2022).

The concept of energy security has evolved to address new dimensions such the environment, human security, international relations, foreign policy, energy efficiency, and capacity adequacy (Yao & Chang, 2024). The sustainable development is inversely proportional to the environmental degradation in Pakistan. An increase in the environmental degradation results in decreasing the sustainability, whereas lessening the environmental issues will result in more sustainability of a country's economy (Fatima et al., 2024). Socio-economic performance is strongly dependent on energy sources. Pakistan has an energy crisis. Despite using renewable energy, conventional energy is Pakistan's principal energy source. Despite growth in energy consumption, generation technologies have not been improved Feng, etal (2024).

Environmental concerns in Pakistan include air pollution, water scarcity, deforestation, and climate change. Addressing these issues is crucial for sustainable development Major sources of air pollution include vehicular emissions, industrial discharges, and the burning of fossil fuels. The

high levels of particulate matter (PM_{2.5}) pose severe health risks, contributing to respiratory diseases and cardiovascular problems (Iqbal et al., 2020). Pakistan is highly vulnerable to the impacts of climate change, including rising temperatures, shifting precipitation patterns, and an increase in the frequency and intensity of extreme weather events. The country has experienced devastating floods and prolonged droughts, which have severe socio-economic impacts (Hussain, 2018). CPEC increases significant environmental concerns. The construction, infrastructure and energy projects have potential adverse environmental impacts. These concerns include deforestation, air and water pollution, and habitat destruction. For instance, coal-based energy projects under CPEC are likely to increase greenhouse gas emission adding to global warming (Sarfaraz et al., 2020). Asghar, et al, 2024). examines the environmental laws in Pakistan and the various impediments faced in their implementation and subsequently puts forward various solutions for proper enforcement of laws pertaining to the environment as well as towards the prosperity of the environment. Various solutions are discussed in this study, which overcome the barriers and aid in the successful implementation of the environmental laws in Pakistan.

Diplomatic engagement is a foundation of Pakistan's foreign policy. It has a crucial role in advancing national interests, development of regional stability, and obtaining economic growth. Diplomatic engagement used many strategies i.e. bilateral engagements, multilateral engagements and form treaties and alliances. Pakistan's diplomatic engagement has brought, economic growth, security cooperation, and international recognition. However, engagements with major power, regional stability and environmental concerns are fundamental challenges. , Pakistan through effective diplomatic strategies and multilateral cooperation could develop effective foreign policy and secure its national interests in in the world.

(Farooq, et al 2024). examines diplomatic engagement and foreign policy formulation think tank role in effectiveness of Pakistan's foreign policy. These diplomatic think tanks affect foreign policy-making through new planning, provide expertise, educate citizens, and contribute to conflict resolution. (Ullah, et al., 2024). "Pakistan's foreign policy priority is in directing its strategic and economic interests on the world. The foreign policy priorities are to plan a effective course of action that promote national interests and develop regional and international cooperation. Foreign policy priorities of Pakistan are essential for aiming its strategic and economic interests in the world. The active engagement in international organizations and cooperative conflict resolution struggles highlight Pakistan's commitment for peace and prosperity. Through a win-win approach and diplomatic expertise, Pakistan aims to improve its world recognition and contribute positively to international affairs.

(Tahir, et al 2023). The study withdraws light on the foreign policy and diplomatic techniques that Pakistan employs in response to coercive demands of US and India. The study analysis the knowledge of the diplomatic scene and provide inform about strategic choices and diplomatic activities. (Qazi, & Bashir ,2022) the defence diplomacy as strategic engagement focuses on a state's military and defence institutions for a peaceful, non coercive role to build cooperative relations with rivals to prevent and resolve conflicts. The study argues that Pakistan's defence diplomacy towards Russia geared towards reducing hostility and sources of resistance to promote broader foreign policy objectives. The study concludes that Pakistan's defence diplomatic efforts (2014-2020) have produced political and strategic-level benefits to prevent conflict and reduce hostility with Russia.

Recommendations

Pakistan should strengthen diplomatic efforts to foster relationship with neighboring countries global player and promote Pakistan's strategic and economic interests. There is need to develop comprehensive diplomatic strategies that address geopolitical challenges and opportunities.

Pakistan should ensure safety and security of chines nationals working on CPEC projects throughout Pakistan. The terrorists attacks on chines engineers and workers would result in delay

in implementation of projects. There is a need to promote transparency and accountability of CPEC projects to the public and address public concerns.

Pakistan should prioritize improvements in energy infrastructure to reduce power shortages and promote energy conservation and efficiency programs to optimize current energy resources. For protection of environment concerns, the government of Pakistan formulate relevant laws. CPEC is a game changer project and significant laws will make it more strong and sustainable Pakistan needs to adopt the international standards in construction of infrastructure development abiding by the international protocols to save the nature. Pakistan must need to establish cooperation with its neighboring countries to improve the sustainability of environment in terms of peace, development and collective progress.

Conclusion

Pakistan's foreign policy dynamics through the relationship of the China-Pakistan Economic Corridor (CPEC), energy security, environmental concerns, and diplomatic engagement discloses a complex framework that shapes geopolitical strategies. Through the development of infrastructure, foreign direct investment and creating job opportunities, the CPEC strengthen economy. It can act as a catalyst for the nation's industrialization, economic development, and reduction of poverty. The mixed-method approach both qualitative and quantitative data provides a comprehensive understanding about CPEC, energy security and environmental issues. CPEC enhanced economic development and Pakistan's geopolitical significance in the region. Being a China's Belt and Road Initiative, CPEC worked as a catalyst for economic growth, infrastructure development, energy security and regional connectivity. Interviews with foreign policy analysts and international relations experts highlighted CPEC role in strengthening strategic cooperation with China. Energy security in the country arises as an important aspect of Pakistan's foreign policy, that needs to address to support and foster economic growth. The qualitative analysis opinions emphasize to diversify energy sources, to reduce dependency on imports and guarantee sustainable energy supply in the country. Environmental issues are now integral part of foreign policy formulation of any country in the world. The integration of environmental concerns in CPEC projects determines Pakistan's commitment to environmental protection measures and sustainable development. Pakistan diplomatic efforts are enhanced to foster regional stability, economic partnerships and engage regional countries and international organizations for the promotion of economic and strategic interests.

The statistical analysis indicates a positive correlation between CPEC investments and GDP growth in the country. Regression result also demonstrate positive result of CPEC infrastructure and energy projects that contribute considerably in economy. Pakistan should formulate a dynamic foreign policy approach that leads to economic prosperity, energy needs and environmental sustainability. The study suggests that future policies should continue to integrate these dimensions, that ensure a balanced and sustainable foreign policy.

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