CPEC Sustainable Development: Opportunities and Challenges

Dr. Mujtaba Ellahi

INTRODUCTION

A flagship project of China's Belt and Road Initiative (BRI), the China-Pakistan Economic Corridor (CPEC) aims to promote economic cooperation between China and Pakistan while also improving regional connectivity. CPEC is a multi-billion-dollar infrastructure and development project that was started in 2015. It connects Pakistan's Gwadar Port on the Arabian Sea with China's northwest Xinjiang region across a distance of more than 3,000 kilometres. Energy, transportation, infrastructure, and industrial cooperation are just a few of the many industries that are included in the project. Although CPEC has the potential to greatly accelerate Pakistan's economic development and prosperity, it also poses serious sustainability concerns. Examining the economic, environmental, and social aspects of CPEC, this essay examines its implications for sustainable development and talks about the chances and challenges of making sure CPEC promotes sustainability over the long run.

One of the biggest infrastructure projects of the contemporary era is the China-Pakistan Economic Corridor (CPEC). The project links China's Xinjiang province with Pakistan's Gwadar Port on the Arabian

Sea and entails building highways, railroads, energy pipelines, and industrial zones. CPEC, a flagship project under China's Belt and Road Initiative (BRI), is anticipated to transform Pakistan's economy by establishing new trade channels, boosting regional connectivity, and improving infrastructure. The long-term viability of the CPEC projects is still a concern, especially about economic, social, and environmental sustainability, despite the promise of quick progress. These CPEC features are examined critically in this essay, which also looks at the prospects and difficulties related to its sustained growth.

CPEC'S ECONOMIC SUSTAINABILITY

Pakistan's economy is anticipated to undergo a radical change as a result of CPEC. With the creation of special economic zones (SEZs), the project seeks to alleviate Pakistan's ongoing energy problems, enhance transportation infrastructure, and generate new economic opportunities. The Planning Commission of Pakistan estimates that by 2030, CPEC will increase the nation's GDP growth rate by 2 to 2.5 percentage points and generate over 700,000 direct jobs (Planning Commission of Pakistan, 2017). To solve Pakistan's energy crisis, one of the main aims of the China-Pakistan Economic Corridor (CPEC) is the construction of energy projects. Through the development of coal-fired, hydro, wind, and solar power plants, CPEC has contributed more than 5,000 megawatts (MW) of electricity to Pakistan's national grid as of 2021 (China-Pakistan Economic Corridor, 2021).

In addition to lowering power outages, this has made the energy supply for home and business use more dependable. However, given international efforts to cut carbon emissions and fight climate change, CPEC's reliance on coal-fired power facilities has sparked questions about its environmental viability. Along with energy projects, CPEC also includes building ports, railroads, and other transportation facilities, which should improve regional connectivity and ease trade. Among the major infrastructure projects under CPEC are the development of the Karachi-Lahore Motorway, the construction of the Gwadar Port, and the improvement of the Karakoram Highway.

The creation of Special Economic Zones (SEZs) under the China-Pakistan Economic Corridor (CPEC) is another significant component of the project. These zones are meant to draw in foreign investment, encourage industrialization, and generate employment opportunities; they are expected to concentrate on industries like information technology, textiles, and automobiles, which have the potential to boost Pakistan's export revenue and economic diversification. However, the success of these zones will depend on the availability of skilled labour, access to financing, and the capacity to establish a business-friendly environment.

Even though CPEC has the potential to spur economic growth and development in Pakistan, it is crucial to make sure that this growth is sustainable and inclusive, which means tackling issues like income inequality, regional disparities, and the potential for environmental degradation. Additionally, since CPEC is primarily financed by Chinese loans, its long-term viability will depend on Pakistan's ability to manage its debt obligations; the State Bank of Pakistan reports that in 2020, the country's external debt and liabilities totalled $115.7 billion, with a large amount of that debt being attributable to CPEC-related projects (State Bank of Pakistan, 2020). They are:

1. Trade Integration and Economic Growth

The potential of CPEC to promote sustained economic growth in Pakistan is a key factor in determining its long-term viability. It is anticipated that the construction of Gwadar Port and the road and rail system linking Pakistan to China and other areas will greatly lower trade costs, improve export capacities, and strengthen Pakistan's standing in global commerce (Ali et al, 2020). Furthermore, CPEC is a vital hub for regional economic integration since it gives Pakistan direct access to China's sizable consumer markets as well as trade routes that link Central Asia, the Middle East, and Africa. By drawing in foreign direct investment (FDI), generating employment, and encouraging technology transfer, the establishment of Special Economic Zones (SEZs) along CPEC routes has the potential to accelerate industrialization.

In an economy like Pakistan, which has struggled with industrial growth because of inadequate infrastructure and restricted access to global markets, this is especially crucial. CPEC can ease the flow of products, lessen traffic jams, and cut down on transaction costs for companies as it improves Pakistan's energy and transportation infrastructure. But for the economic gains from CPEC to last, Pakistan needs to make sure that foreign investment leads to the growth of domestic industry, especially in less developed areas like Khyber Pakhtunkhwa and Balochistan. The ability of regional industries to profit from enhanced infrastructure and worldwide connectivity will determine how well this integration goes.

2. Creating Jobs and Reducing Poverty

The potential for CPEC to generate thousands of employment is one of the main advantages it offers. There will be a high demand for workers as infrastructure projects are created to build highways, electricity plants, and other services. Employment in the manufacturing and service sectors may increase as a result of the creation of SEZs (Shah et al, 2019). Additionally, by giving local workers access to skill development programs, CPEC can increase their employability in a competitive market by giving them useful technical expertise.

Furthermore, by enhancing the economic climate in developing regions, CPEC may help reduce poverty. Balochistan and other historically economically marginalized regions may benefit from the increased economic prospects brought forth by the China-Pakistan Economic Corridor (CPEC). Improved access to markets, improved economic activity, and better infrastructure can help reduce poverty and enhance living standards (Hussain et al, 2018).

However, the equitable distribution of economic rewards is a fundamental concern. Rural areas might not witness the same amount of development as major hubs like Lahore, Karachi, and Islamabad, which are expected to grow rapidly. The long-term social and economic viability of CPEC depends on ensuring that its advantages are felt throughout Pakistan.

CPEC'S SOCIAL SUSTAINABILITY

1. Inclusivity and Social Equity

CPEC needs to address social justice concerns and encourage diversity to be socially sustainable. If steps are not taken to guarantee that local communities are involved in the development process, the fast expansion of infrastructure in areas that have long been disregarded, like Balochistan and portions of Khyber Pakhtunkhwa, might make already-existing disparities worse. Prioritizing health, education, and job creation will guarantee that every group of people benefits equally from the programs. Furthermore, by giving women equal employment opportunities and guaranteeing them access to the financial gains of development, CPEC should promote gender equality. Gender gaps can also be lessened via projects about healthcare, education, and rural development, especially in less developed and rural areas (Shah et al, 2019).

The potential for local populations to be uprooted by massive infrastructure projects is a major worry. Social discontent may result from community relocations that do not provide sufficient resources, support services, or compensation. To guarantee inclusive and equitable development, the government must place a high priority on community involvement and participatory decision-making procedures.

2. Reducing Regional Inequalities and Enhancing Governance

Enhancing governance structures is another important challenge in ensuring social sustainability. The success of CPEC depends not only on building physical infrastructure but also on the Pakistani government's institutional capacity to manage the projects, ensure transparency, and address the concerns of local communities. This calls for strong institutions that can effectively manage large-scale projects and effective coordination between the federal, provincial, and local governments. Regional disparities, especially in politically sensitive areas like Balochistan, could pose significant obstacles to CPEC's social sustainability, as local populations may feel left out of the economic benefits of the project if they are not consulted and their concerns are not sufficiently addressed.CPEC must be presented as an inclusive project that considers the interests and goals of all Pakistani residents, especially those from marginalized communities, to prevent such tensions (Ali et al, 2020).

CPEC'S ENVIRONMENTAL SUSTAINABILITY

1. Effects on the Environment and Their Mitigation

Although CPEC could accelerate Pakistan's economic growth, there are rising concerns about how sustainable it would be for the environment. Large-scale infrastructure initiatives, including building new roads and producing electricity, frequently have a high environmental cost. While energy plants, especially those that use coal, contribute to air pollution and greenhouse gas emissions, construction activities can result in deforestation, habitat damage, and soil erosion.

CPEC's growth of coal-fired power plants, in particular, may have long-term environmental effects, aggravating global climate change and adding to Pakistan's already high air pollution levels (Hussain, 2018). Pakistan must enforce laws meant to reduce environmental damage and conduct thorough environmental impact assessments (EIAs) for all significant CPEC projects to allay these worries. One of the most controversial aspects of CPEC is the development of coal-fired power plants, which

have helped to address Pakistan's energy shortages but have also raised concerns about air pollution and greenhouse gas emissions. The project's reliance on coal-fired power plants and the potential for ecological degradation make it extremely concerning. Pakistan is already vulnerable to the effects of climate change, including rising temperatures, melting glaciers, and extreme weather events; the construction of large-scale infrastructure projects under CPEC could exacerbate these challenges, especially if environmental considerations are not sufficiently addressed.

One of the main sources of carbon dioxide (CO2) emissions that contribute to global warming, according to the International Energy Agency (IEA), is coal-fired power stations (IEA, 2020). Environmental organizations have attacked CPEC's construction of coal-fired power facilities, claiming it jeopardizes international efforts to switch to cleaner energy sources.

The Pakistani government has responded to these worries by stressing the significance of expanding the proportion of renewable energy in CPEC projects and diversifying its energy mix. About 30% of the total energy capacity added by the CPEC as of 2021 comes from renewable energy projects, such as wind, solar, and hydroelectric power plants (China-Pakistan Economic Corridor, 2021). Nonetheless, Pakistan's entire energy mix still has a comparatively small amount of renewable energy, and more funding for clean energy technology is required.

The environment may be impacted by the CPEC's transportation infrastructure construction. Deforestation, habitat destruction, and increased pollution could result from the construction of roads, railroads, and ports. For instance, there are worries regarding the effects on regional ecosystems and biodiversity of the Karakoram Highway, which is being built through some of Pakistan's most environmentally delicate regions. Similarly, marine ecosystems may be impacted by the construction of the Gwadar Port, especially if appropriate environmental protections are not implemented.

Environmental factors must be incorporated into CPEC project planning and execution to overcome these obstacles. This entails carrying out environmental impact assessments (EIAs), embracing sustainable building best practices, and putting policies in place to lessen the negative effects of infrastructure development on the environment. Furthermore, the decision-making process needs to be more transparent and involve stakeholders, especially when it comes to the social and environmental effects of CPEC projects.

2. Encouraging Renewable Energy and Green Infrastructure

The creation of green infrastructure should be given top priority by the Pakistani government to lessen the negative environmental effects of CPEC. To lessen Pakistan's carbon footprint and dependency on fossil fuels, this includes the utilization of renewable energy sources including wind, solar, and hydropower. Sustainable substitutes for conventional coal-fired power plants may be offered by the construction of clean energy projects under CPEC, such as wind and solar farms (Ali et al, 2020). Furthermore, promoting eco-friendly transit options like buses and electric trains as well as sustainable urban design could lessen the environmental impact of CPEC projects. To reduce the environmental dangers connected to rapid infrastructure growth, it will be essential to make sure that development complies with international sustainability standards.

CHALLENGES AND POSSIBILITIES IN CPEC FOR SUSTAINABLE DEVELOPMENT

Several issues, such as social, environmental, and economic ones, must be resolved for CPEC to be implemented successfully and in a way that supports sustainable development. However, there are also plenty of chances for CPEC to support long-term sustainability, especially if the project is in line with international sustainability objectives like the Sustainable Development Goals (SDGs) of the UN. Making sure the project is financially viable is one of CPEC's main obstacles. As previously mentioned, a significant portion of CPEC's funding comes from Chinese loans, which has sparked questions about Pakistan's ability to repay its debt. In the upcoming years, Pakistan's external debt is anticipated to rise sharply, with CPEC-related projects contributing considerably to this burden, according to the International Monetary Fund (IMF) (IMF, 2020). It will take careful financial management, including the adoption of measures that encourage economic resilience and lower the risk of debt hardship, to guarantee that CPEC supports sustainable development. Making sure CPEC projects are environmentally sustainable is another difficulty. This necessitates incorporating environmental factors into CPEC project design and execution, including implementing strategies to lessen the environmental effect of infrastructure development and embracing best practices for sustainable building. Furthermore, more funding is required for renewable energy

technology, especially given international initiatives to lower carbon emissions and fight climate change. Another crucial factor to take into account is CPEC's social viability. The project's long-term viability depends on ensuring that everyone in society benefits from CPEC, especially in terms of job generation, social fairness, and community involvement. This necessitates tackling problems like geographical differences, income inequality, and the possibility of relocation and displacement. To guarantee that everyone in society benefits from CPEC, more money must be invested in social infrastructure, including community centres, hospitals, and schools. Notwithstanding these obstacles, CPEC has a lot of potential to support sustainable development. The project could spur economic expansion and advancement in Pakistan, especially in less developed areas.

Furthermore, especially in light of the BRI, CPEC may serve as a template for regional connectivity and collaboration. There is a chance to guarantee that CPEC promotes long-term sustainability in Pakistan and the surrounding area by coordinating the project with international sustainability objectives like the SDGs. The economic and environmental effects of CPEC are intimately related to its social elements. Particularly in Pakistan's less developed areas, the project may open up new doors for social development, education, and employment. But it also brings up significant issues regarding community involvement, social equality, and the possibility of relocation and displacement.

The potential for job creation is one of the main social benefits of CPEC. It is anticipated that the construction of infrastructure projects, the creation of Special Economic Zones (SEZs), and the growth of the energy sector will generate thousands of jobs for local communities; however, there are concerns regarding the quality of these jobs, specifically about wages, working conditions, and job security; additionally, it is necessary to guarantee that local communities have access to the necessary skills and training to capitalize on these opportunities; and finally, the development of CPEC projects may have an impact on social equity, particularly for regional disparities.

Although the project could boost economic growth in Pakistan's less developed areas, there is a chance that the advantages of CPEC will be concentrated in a few places, escalating already-existing disparities. For instance, the construction of the Gwadar Port and related infrastructure may boost Balochistan's economy, but there are questions about whether the local populace will gain anything from these advancements. In a similar vein, residents may be displaced as a result of the establishment of SEZs, especially if land acquisition procedures are not carried out fairly and transparently.

One of the main societal concerns with CPEC is the possibility of relocation and displacement. Large-scale infrastructure projects frequently necessitate the purchase of land, which may result in the eviction of nearby people. The land purchase procedures in Pakistan have come under fire for being opaque and not providing impacted communities with fair compensation. In the context of CPEC projects, there have been allegations of forceful evictions, insufficient compensation, and a failure to involve local populations (Amnesty International, 2019). For CPEC to be socially sustainable, the rights of impacted populations must be upheld.

Along with these difficulties, it is important to make sure that CPEC advances social progress, especially in the areas of gender equality, health, and education. Especially in light of SEZs and the growth of the energy industry, the project may open up new avenues for education and skill development. To guarantee that everyone in society benefits from CPEC, more money must be invested in social infrastructure, including community centres, hospitals, and schools. They are:

1. Problems with Governance and Political Instability

Political unrest and issues with governance in Pakistan pose a serious threat to the long-term viability of the China-Pakistan Economic Corridor (CPEC). The successful execution of CPEC projects may be hampered by the complicated political climate, which is marked by frequent changes in government and divergent regional interests. The success of the project may be harmed, namely, by poor governance systems, corruption, and delays in project approvals (Hussain et al, 2018). For CPEC projects to be managed openly and resources to be distributed fairly, effective governance is necessary. To preserve public confidence and avoid resource misallocation, transparent decision-making procedures and accountability systems are essential.

2. Security Issues

Security concerns may discourage foreign investors and affect the overall success of the initiative. Militancy, insurgency, and ethnic tensions pose risks to the completion of CPEC projects, with potential delays and cost overruns. The security situation in some parts of Pakistan, particularly Balochistan and Khyber Pakhtunkhwa, continues to be a major

challenge. The Pakistani government must ensure a secure environment for both local and international stakeholders involved in CPEC (Shah et al, 2019).

CONCLUSION

With the potential for substantial economic growth, regional integration, job creation, and infrastructure development, the China-Pakistan Economic Corridor (CPEC) offers Pakistan a game-changing opportunity. However, resolving the project's social, economic, and environmental issues is essential to its long-term viability. Pakistan should use CPEC as a platform for sustainable development by resolving environmental issues, enhancing governance, and making sure that the benefits are shared fairly. CPEC has the potential to be a model for other infrastructure projects in developing economies, fostering prosperity that benefits present and future generations, provided it is planned carefully and inclusively. The China-Pakistan Economic Corridor (CPEC) is a game-changing initiative that might greatly accelerate Pakistan's economic development and growth. But the initiative also brings up significant issues regarding sustainability, especially when it comes to its social, environmental, and economic facets. Several issues, such as social justice, environmental impact, and financial sustainability, must be resolved if CPEC is to support sustainable development. However, there are also plenty of chances for CPEC to support long-term sustainability, especially if the project is in line with international sustainability objectives like the SDGs. There is a chance to guarantee that CPEC will benefit Pakistan and the larger region in the long run by including sustainability concerns in the project's design and execution.

REFERENCES

Ali, M., & Ahmad, M. (2020). China-Pakistan Economic Corridor: Economic opportunities and sustainable development in Pakistan. Journal of South Asian Studies, 45(2), 123-139.

Amnesty International. (2019). Pakistan: Displaced and dispossessed: Forced evictions in Pakistan. Retrieved from https://www.amnesty.org

China-Pakistan Economic Corridor. (2021). CPEC energy projects. Retrieved from http://cpec.gov.pk

Hussain, A. (2018). CPEC and sustainable development: The environmental and social implications. International Journal of Development Studies, 36(4), 201-217.

International Energy Agency (IEA). (2020). Coal 2020: Analysis and forecast to 2025. Retrieved from https://www.iea.org

International Monetary Fund (IMF). (2020). Pakistan: 2020 Article IV consultation. Retrieved from https://www.imf.org

Planning Commission of Pakistan. (2017). Long-term plan for China-Pakistan Economic Corridor (2017-2030). Retrieved from http://pc.gov.pk

Shah, S. K., & Ali, Z. (2019). Social impacts of the China-Pakistan Economic Corridor in underdeveloped regions. South Asian Policy Review, 12(1), 45-63.

State Bank of Pakistan. (2020). External debt and liabilities. Retrieved from https://www.sbp.org.pk

Dr. Mujtaba Ellahi is an Associate Professor at the Balochistan University of the Information Technology, Engineering and Management Sciences (BUITEMS), Quetta.