**DOI:** https://doi.org/10.52756/boesd.2024.e03.021





The potential and challenges for the development of booming fertilizer trade and commerce across Iran, Afghanistan and Pakistan through the Belt and Road Initiative (BRI) from multiple perspectives

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Keywords: Afghanistan, Belt and Road Initiative, BRI, fertilizer, Iran, Pakistan, socio-economic, socio-political

#### Abstract:

The Belt and Road Initiative (BRI) could potentially address several challenging factors associated with fertilizer trade and food security in Iran, Afghanistan, and Pakistan through investments in infrastructure, such as transportation networks and ports, that could improve the efficiency of fertilizer trade by reducing transportation costs and enhancing connectivity between the countries. Such projects could streamline customs procedures and regulations, making importing and exporting fertilizers easier and more cost-effective, thereby improving access to agricultural inputs and enhancing food security. BRI funding could be directed towards modernizing agricultural practices, improving irrigation systems, and increasing agricultural productivity, contributing to the region's food security. The BRI partnerships could facilitate the transfer of agricultural technologies and know-how, helping farmers in these countries adopt more efficient and sustainable farming practices, leading to increased yields and improved food security. This initiative could support capacity-building programs to enhance the skills and knowledge of farmers and agricultural professionals in areas such as fertilizer use, crop management, and post-harvest handling, ultimately improving food security outcomes. Furthermore, BRI could promote regional cooperation and integration in the agricultural sector, leading to greater collaboration in research and development, sharing best practices, and coordinated responses to common challenges, which would benefit food security efforts across the region. By addressing these challenging factors through infrastructure development, trade facilitation, investment in the agricultural sector, technology transfer, capacity building, and regional cooperation, the BRI has the potential to significantly improve the ground situation related to fertilizer trade and food security in Iran, Afghanistan, and Pakistan.

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### **Introduction:**

The Belt and Road Initiative (BRI), proposed by China in 2013, is a colossal infrastructure and economic development project aimed to connect Asia with Africa and Europe through land and maritime networks (Johnston, 2019). This ambitious venture has the potential to significantly impact global trade, economic development, and infrastructure enhancement, particularly in countries along the proposed routes. The few countries that stand to benefit from the BRI are Iran, Afghanistan, and Pakistan, and the initiative might have a profound impact on the evolution of fertilizer use and the improvement of agricultural production in this region. The geopolitical region of Iran, Afghanistan and Pakistan has a long history of agriculture and has been facing challenges in its agricultural sector, including issues related to using fertilizers. With a growing population and increasing demand for food production, there is a critical need to enhance agricultural practices and increase crop yields. Fertilizer use in this region has been influenced by factors such as technological access, government policies, and international trade barriers. Historically, these countries have depended on imports to meet their fertilizer needs, leading to vulnerabilities in their agricultural supply chain (Santra et al., 2015; Mobley, 2019).

The BRI has led to increased infrastructure development in Iran, Afghanistan, and Pakistan, including projects related to fertilizer production. This could boost agricultural productivity in the region by improving access to essential resources. However, the impact on the environment, local communities, and economic dynamics would depend on the specific details of each project and how they are implemented. Environmental concerns, such as water usage and pollution, should be carefully managed to ensure sustainable development (Shang and Shang, 2019). Additionally, the economic benefits must be distributed equitably to address potential social disparities.

Furthermore, the BRI could facilitate technology transfer and knowledge exchange in agricultural practices, including efficient fertilizer use. With increased connectivity and collaboration among BRI-participating countries, may have the opportunity to benefit from the experiences and best practices of other nations in addressing agricultural challenges (Rolland, 2017). This could lead to adopting more sustainable and effective fertilizer use practices, ultimately contributing to enhanced agricultural production and food security in this highly vulnerable geopolitical (Huang, 2016).

## Points of contention between Iran, Afghanistan and Pakistan

Several socio-economic, socio-cultural, and socio-political parameters contribute to the economic growth of a country. A stable political environment reduces uncertainty for businesses and investors, and fostering economic growth together with strong legal institutions, property rights protection, and contract enforcement are essential for economic development (Huang, 2016). Adequate infrastructure, including transportation, energy, and communication networks, facilitates trade, investment, and productivity growth. Investing in education and healthcare improves the quality of the workforce, leading to higher productivity and innovation

and efficient financial systems provide capital for investment, entrepreneurship, and economic expansion (Rolland, 2017). Furthermore, labour regulations that balance worker protections with flexibility for businesses can promote employment and competitiveness together with open and fair trade policies that can further encourage international investment, export growth, and access to new markets (Shang and Shang, 2019). Responsible fiscal management, including balanced budgets and sustainable debt levels, and effective monetary policies that manage inflation and promote price stability support long-term investment and economic expansion is crucial for the economic stability and growth of a country (Hughes et al., 2020)

Ensuring social equity, reducing income inequality, and addressing poverty enhance political stability and foster sustainable growth of a modern nation-state. Encouraging innovation, research and development, and technology adoption drive productivity gains and economic advancement while balancing economic growth with environmental conservation and sustainability ensures long-term prosperity for future generations. Lastly, efficient and transparent governance reduces corruption, fosters trust, and attracts investment, promoting economic growth (Mobley, 2019). These parameters interact in complex ways, and their importance may vary depending on a country's specific context and stage of development. Addressing these factors comprehensively can create an environment conducive to sustained economic growth. Sustainable economic growth typically requires a stable geopolitical environment and an active government to create and enforce policies conducive to growth (Teo et al., 2019). Geopolitical instability can deter investment, disrupt trade, and impede economic development. Additionally, an active government is often necessary to provide infrastructure, regulate markets, and invest in education and healthcare, all essential for sustained economic growth. Achieving sustainable economic growth without these factors becomes much more challenging (Dunford and Liu, 2019).

While the BRI presents significant opportunities for the agricultural sector of Iran, Afghanistan, and Pakistan, some challenges and considerations need to be addressed (Chan, 2018). The geopolitical regions of Iran, Afghanistan, and Pakistan have historically been the center of numerous flash points and geopolitical crises (Teo et al., 2019). The international boundaries of these three adjoining countries have evolved, and their complex interrelationships have been shadowed due to a lack of trust, cooperation, investment, and successful diplomatic engagements, numerous wars and border skirmishes, insurgency, finger pointing at one another on various global, regional and local issues as well as serious ethnic tensions (Dunford and Liu, 2019). The points of contention between Iran, Afghanistan, and Pakistan have been discussed below to understand the complexity of the situation better (Cheng, 2016).

**A. Between Iran and Afghanistan:** The relationship between Iran and Afghanistan is complex, characterized by a mixture of cooperation and conflict, influenced by historical, cultural, religious, and geopolitical factors. Iran and Afghanistan have had several points of conflict over the years, including:

**Border Disputes:** The two countries share a long border, and disputes over the exact demarcation of the border have been ongoing. This has led to occasional clashes between border guards and tensions between the two governments.

**Ethnic and Tribal Dynamics:** Afghanistan is home to various ethnic groups, including Pashtuns, Tajiks, and Hazaras. Iran has historically supported certain ethnic and tribal factions, which has sometimes exacerbated tensions within Afghanistan.

**Religious Differences:** Iran is predominantly Shia Muslim, while Afghanistan is primarily Sunni Muslim. This religious divide has occasionally been a source of tension, particularly as Iran seeks to expand its influence in the region.

**Political Interference:** Both countries have accused each other of interfering in their internal affairs, including supporting opposition groups and insurgents. Iran has been accused of supporting certain Afghan militias, while Afghanistan has accused Iran of backing the Taliban.

Water Resources: The Helmand River originates in Afghanistan and flows into Iran and has been a source of contention. Disputes over water usage, dam construction, and irrigation rights have strained relations between the two countries.

**Refugee Issues:** Iran hosts a significant population of Afghan refugees, and tensions have arisen over issues such as repatriation, refugee rights, and the socioeconomic impact of hosting such a large refugee population.

**B. Between Iran and Pakistan:** One of the main points of contention between Pakistan and Iran is the issue of cross-border terrorism, particularly concerning militant groups operating in the region. Iran has accused Pakistan of not doing enough to prevent these groups from using Pakistani territory as a base for launching attacks on Iran. Additionally, there have been disagreements over various regional issues, including water resources and the influence of external powers in the nation (Dunford and Liu, 2019). Recently, there were unprovoked missile attacks made by both countries inside each other's border areas, claiming to decimate terrorist groups operating in the region as a counter-insurgency initiative, further deteriorating the relationships between two highly volatile neighbors in the region (Chen et al., 2019). These issues contribute to a complex and often strained relationship between the two countries.

**C.** Between Afghanistan and Pakistan: The main points of contention between Afghanistan and Pakistan include:

**Border Disputes:** Afghanistan and Pakistan have a long-standing border dispute, particularly regarding the Durand Line, drawn by the British in 1893. Afghanistan does not recognize it as an international border, leading to tensions over territorial claims.

**Alleged Support for Insurgents:** Afghanistan accuses Pakistan of providing safe havens and support to militant groups, including the Taliban and Haqqani Network, which operate in Afghanistan, leading to instability and violence in the region.

**Refugee Crisis:** Pakistan hosts millions of Afghan refugees, which strains its resources and creates social and economic challenges. Afghanistan accuses Pakistan of not doing enough to repatriate refugees and facilitating their return to Afghanistan.

Water Management: Both countries share water resources from rivers like the Kabul River, leading to disagreements over water management and usage, particularly regarding dam construction and irrigation projects.

**Influence in Afghanistan:** Pakistan is accused of seeking to exert influence in Afghanistan by supporting certain factions or groups, which Afghanistan perceives as interference in its internal affairs.

# Are there any common grounds for developing better sociopolitical, sociocultural, and socioeconomic relationships between Iran, Afghanistan, and Pakistan?

Fostering better socio-political, socio-cultural, and socio-economic relationships between Iran, Afghanistan, and Pakistan could be achieved through various means, as discussed below. By focusing on these areas of common interest and addressing shared challenges, Iran, Afghanistan, and Pakistan can work towards building stronger socio-political, socio-cultural, and socio-economic relationships for the benefit of their populations and the region as a whole (Dunford and Liu, 2019).

**Diplomatic Engagement:** Regular diplomatic dialogues and initiatives to address common challenges and enhance cooperation in areas of mutual interest.

**Trade and Economic Cooperation:** Strengthening economic ties through trade agreements, joint ventures, and infrastructure development projects to promote prosperity and stability in the region.

**Cultural Exchange Programs:** Facilitating cultural exchanges, promoting tourism, and encouraging people-to-people interactions to foster understanding and appreciation of each other's cultures.

**Security Collaboration:** Collaborating on security issues such as counterterrorism, border security, and narcotics control to address shared threats and promote regional stability.

**Educational Collaboration:** Encouraging academic and educational cooperation, including student exchanges, joint research initiatives, and capacity-building programs to enhance human capital development in the region.

**Infrastructure Development:** Investing in regional connectivity projects like transportation networks and energy pipelines to facilitate trade and economic integration.

**Environmental Cooperation:** Addressing environmental challenges, such as water management and natural resource conservation, through collaborative efforts and shared solutions.

**Conflict Resolution:** Supporting efforts to resolve conflicts and promote reconciliation within and between the countries to create a conducive environment for cooperation and development.

# How can BRI address and resolve the long-standing geopolitical instability of the Iran, Afghanistan, and Pakistan geographical regions to facilitate fertilizer trade to thrive in the region and improve the face of agriculture?

Agricultural productivity and food security in the Iran, Afghanistan, and Pakistan regions varied due to political instability, climate conditions, and economic challenges (Cheng, 2016). Afghanistan faced significant challenges due to ongoing conflict, which disrupted agricultural activities and hindered food security efforts. Pakistan has been trying to improve agricultural productivity through various initiatives and technological advancements, but disparities in access to resources and infrastructure have persisted (Dunford and Liu, 2019). Iran, while facing its own set of challenges, had relatively more stable agricultural productivity and food security compared to Afghanistan and Pakistan.

The BRI presents an opportunity for this region to improve its access to fertilizers and modern agricultural technologies. As the initiative aims to enhance infrastructure and connectivity across the region, it could facilitate the transportation of fertilizers, potentially reducing logistical barriers and costs associated with imports. Improved connectivity through the development of road and rail networks under the BRI could lead to more efficient transportation of fertilizers into the country, thereby contributing to the development of its agricultural sector (Mobley, 2019). The BRI could address the geopolitical instability in the Iran, Afghanistan, and Pakistan by fostering economic cooperation and infrastructure development. Suggested steps are as follows:

**Infrastructure Investment:** BRI could invest in building roads, railways, and ports in the region, facilitating smoother trade routes for fertilizer and other agricultural goods. Improved infrastructure can also enhance connectivity and promote economic integration, contributing to stability.

**Economic Development:** Promoting economic development and job creation through BRI projects could reduce poverty and address some of the underlying causes of instability in the region. Stable economies are less prone to conflict.

**Cross-border Cooperation:** BRI projects often involve cooperation between neighboring countries. Encouraging collaboration between Iran, Afghanistan, and Pakistan through joint infrastructure projects can build trust and promote stability.

**Energy Cooperation:** The BRI could facilitate energy cooperation between these countries, potentially easing tensions over resource access. Investing in renewable energy projects could help address energy shortages and support sustainable agricultural practices.

**Diplomatic Engagement:** BRI provides a platform for diplomatic engagement between countries. It could facilitate dialogue and conflict resolution efforts byBringing together stakeholders from Iran, Afghanistan, Pakistan, and other relevant nations.

**Security Cooperation:** BRI projects could include provisions for security cooperation to address common security challenges in the region, such as terrorism and drug trafficking, which can undermine stability and economic development.

While the BRI alone may not be a panacea for all the geopolitical challenges in the region, it can play a constructive role in addressing some of the root causes of instability and creating conditions conducive to thriving fertilizer trade and agricultural development.

# Is a major global economic powerhouse like India staying away from the BRI initiative? How and where can India's absence impact the success of BRI in the region?

India's decision to stay away from the BRI largely stems from concerns about sovereignty, territorial integrity, and the China-Pakistan Economic Corridor passing through disputed territory. India views the BRI as infringing its sovereignty and undermining its strategic interests. India's decision to stay away from the BRI reflects its strategic calculations. It could have significant implications for the initiative's success in the region, particularly regarding economic integration, geopolitical dynamics, and regional stability. India's absence from the BRI could impact its success in the region in several ways:

**Economic Impact:** India's economy is significant, and its participation in the BRI could have added substantial economic value to the initiative. Its absence means a potential loss of investment and market opportunities for India and BRI participating countries.

**Regional Connectivity:** India's exclusion could hinder the BRI's goal of enhancing regional connectivity, as India plays a crucial role in South Asian and Indian Ocean trade and transportation routes. With India's involvement, the BRI may be able to achieve comprehensive connectivity in the region.

Geopolitical Dynamics: India's absence underscores the regional geopolitical tensions and rivalries, particularly between India and China. This could further complicate diplomatic relations and affect the region's stability, potentially deterring other countries from fully engaging with the BRI.

Alternative Initiatives: India's absence might prompt other regional powers or international actors to propose alternative infrastructure and connectivity initiatives, potentially diluting the BRI's influence and reach.

# How can BRI help develop the fertilizer trade in Central Asia including Iran, Afghanistan, and Pakistan?

The importance and export of fertilizers for agricultural productivity have significant potential to increase under the BRI. As the BRI promotes infrastructure development and connectivity across countries, it opens up opportunities for increased fertilizer trade, enhancing agricultural productivity and food security in participating nations (Mobley, 2019). Additionally, improved transportation networks facilitated by the BRI can help streamline fertilizer distribution, benefiting producers and consumers.

BRI provides a framework for collaboration and investment that can contribute to developing the fertilizer trade in Central Asia, benefiting the agricultural sectors of Iran, Afghanistan, and Pakistan, and fostering regional economic integration. The BRI can facilitate

the development of the fertilizer trade in Central Asia, including Iran, Afghanistan, and Pakistan, through various means, as discussed below.

**Infrastructure Development:** BRI projects often involve the construction of transportation infrastructure such as roads, railways, and ports. Improved infrastructure can enhance the movement of fertilizers within the region, reducing transportation costs and increasing accessibility.

**Trade Agreements and Cooperation:** BRI encourages bilateral and multilateral agreements between countries. This can lead to establishing trade agreements that facilitate the exchange of fertilizers among Central Asian countries, Iran, Afghanistan, and Pakistan, reducing trade barriers and promoting cooperation.

**Investment in Production Facilities:** BRI investments can support establishing fertilizer production facilities in the region, leading to increased local production and reduced reliance on imports. This can help meet the growing demand for fertilizers in agriculture-dependent economies.

**Logistical Efficiency:** BRI projects focus on improving logistical efficiency, which can streamline the fertilizer supply chain. This includes initiatives like customs facilitation, harmonization of regulations, and development of trade corridors, all of which can reduce delays and costs associated with transporting fertilizers.

**Technology Transfer:** BRI initiatives often involve technology transfer and knowledge-sharing opportunities. This can enable the adoption of advanced fertilizer production technologies, improving efficiency and sustainability in the fertilizer industry in Central Asia.

# How can the vast rural underprivileged rural populations of Iran, Afghanistan, and Pakistan benefit from the fertilizer trade boosted by BRI?

Leveraging the fertilizer trade boosted by BRI can contribute to the socio-economic development of rural populations in Iran, Afghanistan, and Pakistan by enhancing agricultural productivity, creating employment opportunities, improving infrastructure, and facilitating access to markets and technology. The BRI can potentially benefit the rural populations of Iran, Afghanistan, and Pakistan in several ways through the fertilizer trade:

**Increased agricultural productivity:** Access to affordable fertilizers can enhance soil fertility and crop yields, thus improving food security and income for rural farmers.

**Job creation:** Expansion of the fertilizer trade can stimulate economic activity in rural areas, creating job opportunities in the distribution, transportation, and agricultural sectors.

**Infrastructure development:** BRI projects often involve infrastructure development, such as roads, railways, and ports, which can improve connectivity for rural areas, facilitating the distribution of fertilizers and agricultural products.

**Technology transfer:** BRI investments may facilitate the transfer of agricultural technology and best practices, improving farming techniques and efficiency in rural communities.

Market access: Improved transportation networks and trade agreements associated with BRI can provide rural farmers with better access to regional and international markets for their agricultural products.

# Foreseeable challenges

Infrastructural development can significantly contribute to the economic prosperity of a region or country. Improved infrastructure such as transportation networks, communication systems, energy facilities, and water resources can enhance productivity, reduce transaction costs, attract investments, stimulate trade and commerce, and foster overall economic growth and development (Huang, 2016). However, there are limitations. Better regional connectivity through the BRI initiative can certainly help in the export-import pathways, but it is debatable whether it can facilitate trade prospects and proper use of fertilizers within the country (Johnston, 2019). The lack of formal education, awareness, and necessary training in properly using the available fertilizers, understanding the recommended dosages of applications at the right stage and correct soil types, lack of any proper storage facility for unused fertilizers, their distribution among the farmers operating in the remote, rural agronomic region with difficult terrain are some of the ground challenges (Shang and Shang, 2019).

The Iran-Afghanistan-Pakistan region is an extremely socio-politically disturbed geographical region, and it is an important point to consider in order to better understand how fertilizers could be judiciously used in the region. The operating local warlords and their belligerent militia and their constant fights with the government forces and the administration for dominating one another have long-term impacts from multiple perspectives. Hence, infrastructure development is one of many solutions to every complex issue stemming from this geopolitical region (Huang, 2016). So, BRI will transform the region without any challenge (s) is a distant dream with no real ground in it other than geopolitical propaganda. Environmental sustainability and responsible use of fertilizers are paramount concerns that must be integrated into any potential increase in fertilizer use (Shang and Shang, 2019). Additionally, Iran will need to navigate geopolitical and economic complexities associated with participating in the BRI, ensuring that its agricultural interests align with its broader strategic objectives (Johnston, 2019).

The BRI has the potential to significantly influence the evolution of fertilizer use in Iran, Afghanistan, and Pakistan which can contribute to the improvement of agricultural production. By enhancing connectivity, facilitating technology transfer, and addressing logistical barriers, the initiative could help Iran overcome challenges related to fertilizer access and the adoption of modern agricultural practices (Cheng, 2016). However, it is essential for the policymakers of these three countries to very carefully navigate the opportunities and challenges presented by the BRI to ensure that the agricultural sector reaps sustainable benefits while contributing to the country's overall development (Dunford and Liu, 2019). As this vulnerable region continues to engage with the BRI, strategic and well-informed decisions will be crucial in harnessing the

potential of the initiative for the betterment of its agricultural sector and the broader economy; otherwise, it may take an unfortunate negative turn that will be beyond redemption (Mobley, 2019).

### **Conclusion**

The BRI could significantly influence the fertilizer trade and economic development in Iran, Afghanistan, and Pakistan due to several geopolitical factors, such as monumental infrastructure development. The BRI projects could enhance transportation infrastructure, facilitating the movement of fertilizers between these countries. Improved roads, railways, and ports could reduce transportation costs and increase trade opportunities. Closer economic ties fostered by the BRI could increase fertilizer trade among these nations. Iran, Afghanistan, and Pakistan may seek to leverage their geographic proximity and BRI investments to enhance bilateral trade partnerships. BRI projects may attract foreign investment in fertilizer production and distribution infrastructure in these countries. This could lead to increased local production, job creation, and economic development. Economic development spurred by the BRI could contribute to greater regional stability, reducing political tensions and creating a conducive environment for fertilizer trade and investment.

Cooperation on energy projects under the BRI could enhance access to natural gas and other resources necessary for fertilizer production, potentially reducing production costs and increasing competitiveness in the global market. Increased fertilizer trade and production could raise environmental concerns like pollution and resource depletion. BRI initiatives may include provisions for sustainable development practices to mitigate these issues. In summary, the geopolitical impacts of the BRI have the potential to reshape the fertilizer trade and economic development landscape in Iran, Afghanistan, and Pakistan by fostering infrastructure development, enhancing trade relations, attracting investment, promoting regional stability, facilitating energy cooperation, and addressing environmental challenges.

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## **HOW TO CITE**

Saikat Kumar Basu, Peiman Zandi, Suparna Sanyal Mukherjee, Alminda Magbalot-Fernandez, Beata Barabasz-Krasny and Yaosheng Wang (2024). The potential and challenges for the development of booming fertilizer trade and commerce across Iran, Afghanistan and Pakistan through the Belt and Road Initiative (BRI) from multiple perspectives © International Academic Publishing House (IAPH), Dr. Nithar Ranjan Madhu, Dr. Tanmay Sanyal, Dr. Koushik Sen, Professor Biswajit (Bob) Ganguly and Professor Roger I.C. Hansell (eds.), *A Basic Overview of Environment and Sustainable Development [Volume:* 3], pp. 305-315. ISBN: 978-81-969828-3-6. DOI: https://doi.org/10.52756/boesd.2024.e03.021

