

INFRASTRUCTURE AND SECURITY DILEMMA: ANALYSING MISTRUST AND CONFLICTS IN INDIA-CHINA BORDER RELATIONS

AJAY KUMAR MANDAL

PhD Candidate, Department of East Asian Studies
University of Delhi

Email id: ajaiimandal@gmail.com

ABSTRACT

Territorial disputes between India and China along the Line of Actual Control (LAC) have increasingly been marked by China's extensive infrastructure development in contested areas. Based on its longstanding practices, notably the construction of the Great Wall of China, a boundary that also served as a symbolic marker of control and strategic domination, China's contemporary infrastructure initiatives in Tibet and Aksai Chin are reflective of a landscape of build to consolidate. Such dual-use development/militarization projects further compound India's security dilemma and have therefore necessitated developing defensive countermeasures like the Darbuk-Shyok-Daulat Beg Oldie Road and airstrip. Booth and Wheeler (Booth and Wheeler 2008)'s Security Dilemma is used in this study to explore how China's offensive infrastructure expansion compels India's reactionary infrastructural arms race resulting in an intensifying cycle of this mistrust and escalation of conflict. The Galwan Clash of 2020 is one of several events that have shown how Chinese aggressive moves have changed the strategic-spatial context of the region along the LAC. This asymmetric infrastructure competition places India in a reactive posture and makes it must weigh territorial security against strategic restraint. This paper underscores that the infrastructure plays a significant role in exacerbating security dilemma between India China border relations.

KEYWORDS: *India-China relations, infrastructure development, Security Dilemma, Galwan Clash, strategic mistrust, Line of Actual Control.*

INTRODUCTION

The security dilemma is a key idea in International Relations for studying the interactions between mistrust and conflict. Often associated with John Herz, Robert Jervis, and later developed by Ken Booth and Nicholas J. Wheeler. The security dilemma holds that it is two-level strategic predicament where states face the dilemma of interpretation and then dilemma of response (Booth and Wheeler 2008). This two-level strategic predicament may turn, results in a vicious cycle of distrust, competition and in some cases conflict. In the modern world, where territorial disputes and geopolitical competition still drive strategic behaviour, the security dilemma has not gone away as an intellectual problem to be solved. Its importance is most glaring against the backdrop of India-China relations, where protracted border disagreements and contested infrastructure-building contribute to mutual insecurities in a self-propelling circle which symbolize recurring mistrust endemic to security dilemma. The historical India-China friction has been attributed to the alternative perception of the McMahon line, a British colonial demarcated border between India and Tibet/China which Beijing has never accepted (Garver 2002). Territorial claims since the 1962 China-Indian War have remained unresolved between the two countries including Aksai Chin and Arunachal Pradesh.

For almost three decades, diplomatic agreements like Border Peace and Tranquillity Agreement (1993) and the Confidence-Building Measures (CBM) Treaty (1996)¹ were enacted specifically to keep an eye on peace along the LAC. But the subsequent repeats of military standoffs like in Sumdorong Chu (1986-87), Doklam (2017) and Galwan clash (2020), highlighted the brittle nature of these agreements in a climate characterised by profound strategic distrust. Infrastructural Development has been "bone of contention" and obvious sign of mutual mistrust, perennially manifesting in infrastructural development up to certain limits on both sides along the border, Infrastructure development has been viewed as a dual usage capability simultaneously supporting defensive operations as well as offensive manoeuvres.

Himalayan border area has turned out to be something of a sink in the India-China stability predicament, and infrastructure creation there features largely. High-profile projects in this regard

¹See, [Confidence measures 1996](#)

include (DS-DBO) Darbuk–Shyok–Daulat Beg Oldie from Leh to strategically critical Daulat Beg Oldie airstrip near Karakoram Pass.²This road provides a powerful boost to Indian power-projection capabilities in the region and represents an assertive challenge against the equilibrium in this sector as seen through Chinese eyes. China has been rapidly building more infrastructure, such as its strategically vital Western Highway (G219) which passes through the disputed region of Aksai Chin and links Tibet to Xinjiang, G695 national expressway, G564 which will emerge from G219 highway, G318, G317, G580 and G109 which connects Beijing to Lahsa. The G219 is also part of a broader Chinese gameplan aimed at facilitating part it holds as legitimate and thereby also declaring as permissible bolstering its logistical capabilities for troops moving along the LAC³.

These competing infrastructural projects highlight the cyclical nature of security dilemma, defensive measures by one state are perceived as offensive threats by the other. Beyond roads, India has invested in constructing advanced infrastructuresuch as the Chisumle-Demchok Road, the Zojila Tunnel, and the Atal Tunnel in Himachal Pradesh⁴⁵. The task is to accelerate the delivery of troops and logistical assistance into forward areas, addressing vulnerabilities exposed during previous conflicts. China, on the other hand, has expanded its network of airbases, including the Ngari Gunsar Airport in Tibet, and developed dual-usefacilities such as the Lhasa Gonggar Airport and Shigatse Peace Airport, which can accommodate both civilian and military aircraft.⁶⁷ These developments underscore the dual-use nature of infrastructure in border regions, where projects ostensibly aimed at development and connectivity also serve strategic military objectives. The theoretical framework provided by Booth and Wheeler(Booth and Wheeler 2008) offers a robust lens for analysing the dynamics of the India-China security dilemma. The security dilemma in Booth and Wheeler(Booth and Wheeler 2008) is a two-level strategic predicament, first, A Dilemma of interpretation and second, A Dilemma of response.

The issue of interpretation comes into question when a state is unsure of the rationale behind another move. India sees China's infrastructure projects like the G219 Highway and G695 national expressway, high-altitude troop deployments across its territory as steps in a grand regional plan of territorial consolidation and dominant influence in LAC. China on the hand considered India's construction of the DS-DBO road and advance BOPs as an attempt to prepare for war. This environment of mutual suspicion leads to the dilemma of response, forcing each state into having to decide how to respond to these perceived threats. Should they respond by bolstering their own power, thereby inviting further provocation, or exercising more restraint to lower tensions? This two-edged sword situation gives an example of the sort of twisted predicaments decision-makers face in context of security dilemma.

It is important to understand that for China, infrastructural development as an instrument of coercion is not simply a modern warfare tactic. Tracing the history of China, Nicola Di Cosmo in his book “Ancient China and its enemies: The rise of Nomadic power in East Asian Studies” The Great Wall of China, he says, was not just a fortification. It was also a political and strategic tool (Di Cosmo 2002). Hewrites that Chinese walls built during the Warring States period served not only to deter nomadic incursions, but also to reinforce territorial control following military conquest. This pattern of construction typically occurred in a predictable order, with army campaigns subjugating enemy nomads followed by the construction of the walls, roads and administrative centres needed to solidify Chinese presence within the newly acquired territory. This infrastructure fulfilled several roles, it aided logistical support for future campaigns, established political borders, and signalled state domination over disputed territories. The infrastructural push by Chinese is not a new phenomenon rather it is an instrument of coercion.

Existing work on the security dilemma has focused predominantly on its applicability to Cold War dynamics and modern great power competition.⁸ Although researched has been conducted on China’s strategic culture, research on the implications of the security dilemma between U.S. hegemony and Chinese aspirations and how it factors into wider regional security concerns, notably by Alastair

²See, [Subramanian, N. \(2020, June 16\).](#)

³See, [CENJOWS](#)

⁴See, [Bhat, A. \(2023, March 31\).](#)

⁵See, [Ravi Shankar. \(2022, January 17\).](#)

⁶See, [Hart, B. \(2023, November 9\).](#)

⁷See, [Pandey, D. \(2022\).](#)

⁸See, [Jervis, R. \(2001\).](#)

Iain Johnston and Andrew Scobell. There is limited research on how the security dilemma manifests in the context of infrastructural competition. This study aims to fill this gap by exploring how infrastructure is implicated in institutional continuity of the security dilemma between India and China. The research would create a holistic picture of how infrastructural contestations inform the dilemmas of interpretation and response that drive mistrust and escalation along the LAC by examining how infrastructural development shapes the dilemmas of interpretation and response.

By exploring how infrastructural projects (like roads, bridges, airstrips, and military facilities) amplify perceptions of threat and competition between the two countries, the research foregrounds the material and ideational function of infrastructure in bilateral relations. This research is also intended to contribute to a wider discourse on how an infrastructural competition not only contributes to geopolitical tensions, but also exposes conceptual shortcomings in the security dilemma paradigm that is often applied to the analysis of China in particular, and East Asia in general, in that it appears to inadequately address many non-military causes of conflict across the contemporary geopolitical landscape. The aim of this study is to demonstrate that infrastructure is not only a trigger but rather can be regarded as a tangible embodiment of the security dilemma taking place between India and China resulting in cycles of mistrust and escalation.

SECURITY DILEMMA AND INDIA-CHINA RELATIONS – A THEORETICAL OVERVIEW

In this section the study will highlight the evolution of security dilemma while analysing the seminal works on the theory of security dilemma. Scholars generally agree that the basic structural premises of the Security Dilemma are grounded in inescapable uncertainties created by the anarchic nature of international relations. Anarchy, defined by theorists like Rousseau and Hobbes, reflects a "state of war" in which there is no central authority to guarantee security, forcing states to compete for power in a world rife with uncertainty. This condition of interstate anarchy lies at the heart of the Security Dilemma, where uncertainty about others' intentions leads states to adopt defensive measures that, paradoxically, are interpreted as aggressive.

These challenges are particularly evident in India-China relations, where both nations have grappled with the question of how far defensive actions aimed at securing national interests might provoke fears of aggression. In this context, the Doklam 2017 and the Galwan Clash of 2020 serve as key examples. At what point do defensive actions cross the threshold into aggression? When do status-quo policies transform into revisionism? And under what circumstances do actors motivated by benign intentions become perceived as expansionists? These are some of the central empirical questions posed by the Security Dilemma in the India-China context, where material and psychological factors influence the security policies of both nations.

The material realities of the Security Dilemma refer to the ambiguous nature of military force and weapon systems. For instance, in the case of India and China, the deployment of troops along the Line of Actual Control (LAC), or the construction of military infrastructure, has been viewed by each side as provocative, despite being intended as defensive measures. This dynamic heightens the risk of misinterpretation. The psychological realities revolve around policymakers' challenges in interpreting the intentions of others, further complicating the possibility of peaceful engagement (Butterfield 1951; Jervis 1978). In sum, the ambiguity of weapons—instruments used both for coercion and self-defence—combined with the uncertainties of anarchy, exacerbates threat perceptions between India and China, creating a "spiral of mistrust" that, without amelioration, can lead to conflict.

The Security Dilemma has long been recognized as a foundational concept in International Relations (IR), and it has evolved through the contributions of scholars such as John Herz (Herz 1950), Herbert Butterfield (Butterfield 1951), and Robert Jervis (Jervis 1978). Herz, who coined the term in 1950, framed the Security Dilemma within the broader anarchic structure of the international system. For Herz (Herz 1950), the crux of the problem is that states, driven by fear and uncertainty, often accumulate power for defence. However, in doing so, they inadvertently project aggression, prompting other states to respond similarly. This cycle results in a vicious circle: the more power a state accumulates, the more insecure others feel, compelling them to amass power in return. Herz (Herz 1950) suggested that even status-quo states might be forced into aggressive postures as they attempt to maintain security, a condition particularly relevant to India and China's tense border standoffs.

While Herz (Herz 1950)'s focus was on structural factors, Herbert Butterfield (Butterfield 1951) introduced the psychological aspect of the Security Dilemma, notably through his concept of Hobbesian fear. He highlighted how the fear of unknown intentions could drive conflict, even when

neither side harbours hostile motives. This concept is critical when applied to India-China relations, where mutual mistrust has historically exacerbated tensions. For example, during the Galwan Clash in 2020, both sides likely perceived their actions as defensive, yet the absence of clear communication and the legacy of mistrust resulted in an escalation. His analysis underscores the tragedy of the Security Dilemma: even in situations where neither party seeks conflict, the mistrust spirals that emerge can drive both sides toward aggression.

Robert Jervis (Jervis 1978) further developed the theory by introducing perception and misperception as key drivers of the Security Dilemma. Jervis (1978) argued that cognitive biases often lead states to misinterpret defensive actions as offensive, escalating tensions even in the absence of hostile intent. In the context of India-China relations, Jervis's work is particularly relevant. The Galwan Clash offers a clear example of misperception driving conflict: India's infrastructure development in the region, aimed at securing its borders, was interpreted by China as an aggressive move. He also explored credible signalling—the notion that states can mitigate the Security Dilemma by clearly signalling their defensive intentions. However, the challenge lies in overcoming inherent biases and the difficulty in interpreting signals accurately, as seen in both the Doklam⁹ and Galwan incidents.

Jervis (Jervis 1978) also introduced the offense-defence balance, which posits that when defensive strategies are cheaper and easier, states are less likely to perceive others as threats. However, when offensive strategies dominate, as may be the case in certain periods of India-China relations, the Security Dilemma intensifies, increasing the risk of conflict. His work suggests that the intensity of the Security Dilemma can be reduced through clearer communication, confidence-building measures (CBMs), and institutional frameworks. Despite its intractability, the Security Dilemma can be mitigated through diplomatic efforts, multilateral forums, and arms control agreements. Scholars like Shipping Tang (Tang 2009) argue that external factors—such as the asymmetric distribution of power and external alliances—also play a role in how the Security Dilemma unfolds. In the case of India and China, regional power dynamics, the involvement of external actors like the United States, and strategic partnerships further complicate the security dynamics between the two nations. As the theoretical foundations of the Security Dilemma have been established through the works of scholars such as Booth and Wheeler, Herz, Butterfield, Jervis, and Tang, this study now moves to its second section, where the focus shifts toward tracing the work on India-China security dilemma in the existing literature.

In this second section the study will analyse the India-China security dilemma which is the central theme of this study, reflecting the complex and multifaceted relationship between the two nations. This concept, frequently applied to their interactions, highlights the competitive dynamics, mutual distrust, and strategic competition that characterize the bilateral ties of these Asian giants. A historical analysis reveals that the root of this issue lies in longstanding geopolitical tensions, which have escalated as both nations have expanded their influence across various regions, particularly South Asia and the Indian Ocean. These actions are viewed by each other with increasing suspicion, which prompts countermeasures, heightening the mutual sense of insecurity and thereby reinforcing the cycle of suspicion and defensiveness.

Johan Garver (Garver 2002) (2002) provides one of the foundational analyses of the India-China security dilemma, arguing that India's view of China's expanding ties with South Asian nations and its growing military presence in the Indian Ocean represents a direct threat to India's security. According to Garver, this has led India to pursue countermeasures, including military build-ups and regional alliances, which, in turn, escalate Chinese fears of Indian aggression. This cyclical dynamic makes it difficult for the two countries to cooperate, even when there are shared regional interests. Central to this dilemma is the enduring mistrust between India and China, especially regarding China's strategic ties with Pakistan, which India views as a significant threat. He highlights this as a critical barrier to improved bilateral relations, despite occasional diplomatic overtures.

David Scott (2008) extends this analysis by incorporating realism and constructivism into his study of India-China relations. He argues that while both nations have engaged in economic cooperation, particularly in the realm of trade, their geopolitical rivalry remains intense, especially in the areas of territorial disputes¹⁰, nuclear capabilities, and naval power. Scott notes that power and perception play central roles in shaping the security dynamics between the two countries, with each

⁹See, [Kaura, V. \(2020\)](#).

¹⁰See, [Scott, D. \(2008a\)](#).

viewing the other through a lens of suspicion and competition. He points to China's "String of Pearls" strategy,^{11,12} which involves establishing naval bases and extending its influence throughout the Indian Ocean, as a key factor exacerbating India's security concerns. In response, India has sought to strengthen its ties with other regional powers, notably Japan and the United States, as part of a broader effort to counterbalance China's growing influence.

Expanding on the security dilemma framework, Srinath Raghavan (Raghavan 2019) (2019) presents a different perspective by questioning whether the concept of a security dilemma can fully capture the nature of the tensions between India and China. He contends that the relationship between the two nations is shaped not only by misperceptions or defensive postures, as suggested by traditional security dilemma theory, but by deeper, more fundamental conflicts of interest. He traces the historical trajectory of their interactions, emphasizing the 1962 India-China war as a turning point that set the stage for ongoing strategic rivalry. Since the 1960s, He argues, the relationship has been marked by a zero-sum approach to regional dominance, particularly in areas such as the Himalayas and the broader Indo-Pacific region, where both nations seek to assert their influence. This struggle for dominance, rather than a simple misunderstanding of defensive intentions, lies at the heart of the tensions between them.

Yogesh Joshi and Anit Mukherjee (2018) focus on India's evolving military strategy in response to the increasing intensity of the security dilemma. They argue that India's posture has shifted from "deterrence by denial" to "deterrence by punishment," reflecting a more proactive and assertive stance toward China. This shift, they explain, is a reaction to China's military modernization and expanding influence in the Indian Ocean, particularly its infrastructure development in Tibet, which India perceives as a direct threat. Historically, India's approach was defensive, aiming primarily at preventing incursions along the Himalayan border. However, the modernization of China's military has compelled India to adopt a more offensive strategy, signalling a willingness to engage militarily beyond its borders if necessary.¹³ This evolution in India's strategy, Joshi and Mukherjee argue, reflects the deepening security dilemma, where both nations interpret each other's defensive measures as aggressive and threatening.

Rajesh Basrur, Anit Mukherjee, and T.V. Paul (2018) further explore the asymmetric nature of the security dilemma between India and China in their work "Introduction: Revisiting the security dilemma through the lens of India-China relations" and in their book "India-China Maritime Competition The Security Dilemma at Sea". They argue that China's superior military and economic capabilities create a heightened sense of insecurity for India, which, in turn, leads to a self-reinforcing cycle of defensive measures and countermeasures. This asymmetry is compounded by domestic political factors, with nationalist sentiments in India often amplifying the perception of China as an existential threat. Basrur et al. highlight the role of external alliances, particularly India's growing partnership with the United States, as a key element shaping the security dynamics between the two nations. While these alliances provide India with strategic leverage, they also contribute to China's sense of encirclement, further intensifying the security dilemma.¹⁴

Jonathan Holslag (2009) takes a more critical view of the military aspects of the India-China security dilemma, emphasizing the intensifying military competition between the two countries, particularly in the areas of nuclear capabilities and naval power. Holslag points to unresolved border disputes, particularly in regions such as Arunachal Pradesh and Aksai Chin, as key sources of tension and distrust between India and China. He also highlights China's strategic support for Pakistan, particularly in the realm of nuclear and missile technology, as exacerbating India's security concerns.¹⁵ While there is potential for economic cooperation to ease tensions, Holslag argues that the persistent military rivalry between the two nations makes long-term stability unlikely, as both continue to view each other's actions through the lens of competition.

Liu Siwei (2020) examines more recent developments in the India-China security dilemma, focusing on the 2017 Doklam standoff and the 2020 Galwan Valley clash. Siwei argues that while both

¹¹See, [Scott, D. \(2008\).](#)

¹²See, [Scott, D. \(2013\).](#)

¹³See, [Joshi, Y., & Mukherjee, A. \(2018\).](#)

¹⁴See, [Basrur, R., Mukherjee, A., & Paul, T. V. \(2018\).](#)

¹⁵See, [Holslag, J. \(2009\).](#)

nations have attempted to manage their security relationship through diplomatic channels, these incidents reveal the underlying instability in their interactions. He notes that the security dilemma has evolved to include new dimensions, such as cyber security and space capabilities, in addition to the traditional concerns of territorial disputes and military competition.¹⁶ Siwei also discusses the role of international institutions, such as the Shanghai Cooperation Organization (SCO), in mitigating the security dilemma, though he remains sceptical about their long-term effectiveness given the deep-rooted mistrust between the two nations. Rajesh Rajagopalan (2017) offers a broader strategic perspective, suggesting that India's best option for managing the security dilemma is to strengthen its alignment with the United States. He highlights China's growing influence in multilateral institutions and its strategic partnerships with countries like Pakistan as key challenges to India's regional dominance. While India has made efforts to build indigenous military capabilities and forge regional partnerships, Rajagopalan argues that these efforts are insufficient to counterbalance China's rising power. Instead, he advocates for a deeper strategic partnership with the United States, which he believes offers India the best chance of maintaining a balance of power in Asia.¹⁷

Stephen Westcott (2021) delves into the causes and consequences of the 2020 Galwan clash, emphasizing that China's perception of a "closing window of opportunity" prompted it to act aggressively. According to Westcott, China believed that India's infrastructure developments along the border, coupled with its assertive policies in Jammu and Kashmir, threatened China's tactical advantage in the region. Acting on this perception, China sought to consolidate its control over key points along the LAC before India could further erode its strategic position.¹⁸ The Galwan clash, in this context, was not just a localized incident but part of a broader pattern of strategic competition between India and China, a rivalry that shows no signs of abating.

Sun Yun (2020) analyses the broader strategic implications of the Ladakh clash, arguing that the border disputes between China and India are part of a larger pattern of geopolitical competition. Yun points to the fact that while both nations express a desire for stable relations, their conflicting strategic goals, particularly in the Indo-Pacific region, make such stability difficult to achieve. The Ladakh clash, Yun (Yun 2020) argues, is emblematic of a broader Sino-Indian rivalry, one in which China seeks to expand its influence in the region, while India strives to assert its own position as a rising power.^{19,20} As both nations continue to build up their military capabilities along the LAC, the potential for future confrontations remains high.

To build on the complexities of the India-China security dilemma explored thus far, it is crucial to delve deeper into the evolution of this concept and examine how both historical and contemporary events have shaped the strategic calculus of these two nations. The interactions between India and China demonstrate how security dilemmas are not static; they evolve with shifts in geopolitical landscapes, advancements in military capabilities, and changes in political leadership. To fully grasp the persistence of mistrust and the underlying causes of conflict, we must now explore the seminal works on security dilemmas and how these theoretical frameworks have been applied to other international contexts, drawing parallels that can enhance our understanding of the India-China dynamic in the second section of literature review. This exploration will provide a more comprehensive view of how security dilemmas manifest, change over time, and impact international relations.

INFRASTRUCTURE AND SECURITY DILEMMA

In *Ancient China and Its Enemies*, Nicola Di Cosmo offers a reconsideration of Chinese fortifications, especially the early walls and the Great Wall, traditionally seen as defensive works designed to protect Chinese civilization from nomadic invasions. However, Di Cosmo posits, these walls played a far more complex and more offensive role in Chinese statecraft, enabling territorial consolidation, resource extraction and military expansion. During the Warring States period (475–221

¹⁶See, [刘思伟 \(Liu Siwei\). "New Changes in the Sino-Indian Security Dilemma, and Their Consideration \[中印安全困境之新变化及其思考\]"](#).

¹⁷See, [Rajagopalan, R. \(2017\)](#).

¹⁸See, [Westcott, S. P. \(2021\)](#).

¹⁹See, [Yun, S. \(2020, September\)](#).

²⁰See, [Yun, S. \(2020, September\)](#).

B.C.E.), early walls built not only to defend against nomads from the North, but to give Chinese states a foothold to expand their control over disputed frontier areas. Garrisoned troops, fortified bases, and integrated signalling systems for communication allowed for such walls to enable persistent Chinese military incursions into nomadic territories. The walls, running horizontal and vertical lines that operated as offensive infrastructure, enabling the Chinese to project power deep into the steppe regions, control the movement of nomadic groups, and manage crucial resources: pasturelands and trade routes. The repurposing of infrastructure for territorial penetration and dominance embodied a larger framework of state extension, wherein physical barriers would be ensconced as instruments of aggression in the name of defence.

In today's global landscape, the dual-use legacy of infrastructure, as a means of defence and offense, is deeply rooted in the ongoing strategic tussle between India and China. The use of the Great Wall historically can be seen in modern infrastructure ventures roads, railways, airstrips, and military installations along contested borders Ladakh and Arunachal Pradesh today. Significantly, infrastructure, especially in the context of the Line of Actual Control (LAC), is regarded not only as a means to connect or defend but to strengthen territorial claims via quick troop mobilization and cement geopolitical might. As the early Chinese walls did, straining northern nomads between Chinese imperialization and nomadic hegemony by turning contested geographies into control, more contemporary infrastructure projects undertaken by both India and China contribute to a security dilemma whereby each state sees the other as a threat to its security, spurring increasingly robust investments in military and strategic infrastructure. The cyclical pattern highlighted by this state behaviour reveals how infrastructural competition can turn borderlands into areas of heightened military competition and distrust. Nicola Di Cosmo's historical observations about Chinese infrastructure offer a insightful lens to explore this contemporary phenomenon, documenting the fact that physical constructions are never neutral, but instead embody political will and strategic outlook.

The infrastructure issue has become a primary catalyst in security dilemma between India and China, especially on the disputed border. Security dilemma is an IR theory concept stating a scenario, when some state takes defensive actions to make itself more secured, which looks offensive to another one, and the latter state response with its own defensive actions, leading to an endless circle of distrust and growing tension. In India-China case, infrastructure developments in sensitive regions like the Line of Actual Control (LAC), not just add form to the logistical and developmental capability but also projects geopolitical will and military readiness. As both countries race to construct roads, airstrips, bridges and other infrastructure along their common border, these developments exacerbate strategic competition, narrow the space for de-escalation and increase the likelihood of conflict escalation.

Given its disputed nature and the fact that the LAC stretches over 3,488kilometres, the infrastructure on the LAC is virtually inseparable from the realm of the political. China has an advantage in building infrastructure in its border regions primarily due to its centralized governance model, advanced technology, vast financial resources and plains in their border regions. China's investments in areas such as Tibet and Xinjiang have created a sophisticated network of highways, railways, airstrips, and villages that allow for quick mobilization of troops and resources. The G219 National Highway, for instance, transiting through disputed areas of Aksai Chin, builds up the Chinese offensive posture, providing the ability to move small forces quickly and assert control over disputed territories. China has likewise completed several extensions of the Qinghai-Tibet railway, including to Nyingchi, a city that borders Arunachal Pradesh, India's northeastern state. These moves, while nominally framed around economic integration and regional connectivity, are also aimed at projecting Chinese power, buttressing Beijing's territorial claims and provoking Indian fears of strategic encirclement.

On the other hand, India has historically been slower than China in developing infrastructure on its borders. It is due to a mix of factors, such as the mountainous terrain of the Himalayas, limited resources, and a relatively decentralized political and administrative structure. But realizing the strategic consequences of this gap, in the last decade New Delhi has ramped up its investments in border infrastructure. While complex multi-modal transportation systems are important, investment in dedicated highways is key, evidenced in Ladakh by the multi-modal Darbuk-Shyok-Daulat Beg Oldie (DS-DBO) road, which provides for the movement of troops and equipment from Leh to the important forward post of Daulat Beg Oldie on the banks of the Shyok river on the Karakoram Pass. Likewise, airstrips and forward bases such as the Nyoma airfield in Ladakh and enhanced road networks in Arunachal Pradesh are meant to minimise India's vulnerabilities and enable swifter deployment of

troops and supplies. India considers these developments as defensive response and China considers these as provocative attempts to reinforce Indian claims over disputed areas leading to Chinese counter measures.

The actions of each state are based on its sense of vulnerability and its desire to improve its strategic position. However, infrastructure is by its nature dual-use, it is needed for and used by both civilian and military purposes and as such makes it difficult to argue a difference between defensive and offensive intent. For example, roads and railroads constructed to promote the movement of local populations can also be used to move troops, tanks, and artillery to forward areas. Such ambiguity breeds mutual distrust; as each state sees the other's infrastructure as part of a broader campaign to attain military and geopolitical superiority. Thus, infrastructure catalyst for militarization, ups the ante in already charged border space.

Empirical trends add colour to this dynamic. Between 2010 and 2023, infrastructure spending in China reached unprecedented heights in its border regions, particularly in Tibet and Xinjiang. So, China has constructed more than 58,000 kilometres of road in Tibet alone, in addition to a high-tech rail and communication system. India, meanwhile, ramped up infrastructure development, with its border road network growing to more than 6,000 kilometres in 2022. This competitive buildup of infrastructure has coincided with a high spike in border events and military incidents. Noteworthy examples are the 2017 Doklam standoff, during which China's effort to build a road in a contested region led to a 73-day standoff with Indian forces, and the 2020 Galwan Valley clash, which took place shortly after India finished building the DS-DBO road. In both cases, it was the infrastructure projects which served at the core of the tensions.

The symbolic and psychological importance of infrastructure exacerbates the security dilemma. Border infrastructure, for India and China alike, is not just an instrument for improving military or logistical capabilities but also a symbol of sovereignty and a demonstration of national determination. By building roads, airstrips and even villages in contested regions, both states are trying to solidify their territorial claims and demonstrate their lasting commitment to these regions. For example, China is building of "model villages" along the LAC in Arunachal Pradesh is largely interpreted as part of an overall strategy to consolidate its permanent presence and court challenges to Indian claims over the region. Likewise, India's infrastructure push in Ladakh and the Northeast conveys its resolve to protect its borders and push back against Chinese encroachments. But these signals are generally perceived by the other side as escalatory, which serves to deepen mutual distrust.

The supply of infrastructure can be seen as an economic dimension of the security dilemma. Read in this context, the strategic implications of infrastructure projects, often justified on development grounds — for example, as putting in place conditions for an uplift in the livelihoods of people living in remote and underserved areas — cannot be overlooked. Better infrastructure enables India and China to tighten control over borderlands, incorporate them into their respective national economies and project their administrative power. In China, though, integrating Tibet and Xinjiang with infrastructure, is just one component of a larger strategy of consolidating state control over the regions and quelling local dissent. For India, developing border infrastructure is to stem the marginalisation of frontier communities and strengthen their loyalty to the Indian state. But these economic imperatives are closely intertwined with strategic ones, further blurring the line between development and militarization.

CONCLUSION

Infrastructural development has emerged as a major contributor to the security dilemma between India and China. Although both countries consider their respective projects to be essential for improving security and furthering economic development, those activities are perceived by the other as aggressive and escalatory. The dual-use of infrastructure, matched by its symbolic and strategic significance, creates a powerful source of mistrust and rivalry. Historical precedent also shows that rising infrastructure activity in the region corresponds to exacerbated border tensions, as in Doklam (2017) and Galwan (2020). Given the ongoing investments by India and China in their border infrastructure, the potential for conflict escalation in the event of border skirmishes remains high unless they initiate mechanisms to manage their strategic competition and assuage mutual mistrust. Absent such measures, infrastructure will remain a provocative symbol, and enabler, of their persistent security dilemma.

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