ACADEMIA International Journal for Social Sciences
Volume 4, Issue 3, 2025 ISSN-L (Online): 3006-6638

Technological Asymmetry and Strategic Realignment in the India-Pakistan Conflict

Dr. Syed Zubair Ahmed
syedzubairahmed@rocketmail.com
Member Board, Islamabad Chapter, Association of Certified Fraud Examiners, USA

Rezwan Ullah
rezwanullah1990@yahoo.com
PhD Scholar, Centre for Management & Commerce, University of Swat, Khyber Pakhtunkhwa Pakistan, 19120.

Prof. Dr. Muhammad Asadullah
asadullah@frpmc.edu.pk
Fazaia Ruth Pfau Medical College, PAF Base Faisal, Karachi, Pakistan.
Corresponding Author: * Rezwan Ullah rezwanullah1990@yahoo.com

Received: 09-04-2025 **Revised:** 10-05-2025 **Accepted:** 15-06-2025 **Published:** 20-07-2025

ABSTRACT

The air skirmish in Kashmir in May 2025 indicated a paradigm shift in South Asian military dynamics, with China providing platforms and services integrated with advanced capabilities to Pakistan's defense infrastructure, completely upending the balance of power. This article will examine Pakistan's adoption of the Chinese network-enabled warfare concept, demonstrated by the PL15E missile, J10C fighters, and Link 17 data systems, and reveal that it has given Pakistan a clear tactical advantage against India's weaponization against its NATO allies. A SWOT analysis uses economic data, technical specifications, and geopolitical conditions to explain the significant strategic implications of technological asymmetry.

Keywords: *India-Pakistan conflict, Chinese military technology, PL-15E missile, Network-centric warfare, Rafale fighter, Cost asymmetry in warfare.*

INTRODUCTION

The 2025 Kashmir conflict represented a watershed moment in India-Pakistan hostility, not just in the direction and character of the conflict. Still, it shifted from a traditional war-fighting model to integrated technological ecosystems. When Pakistan deployed Chinese-supported systems, it leveled the playing field. It took away the qualitative advantages India once had, as noted by the downing of a Rafale jet using the PL15E missile. This article evaluates the strategic, economic, and technological dimensions of this shift, underscoring the role of China's "systems of systems" approach in reshaping regional power balances.

BACKGROUND

Historical Context

Since 1947, India and Pakistan have fought three major wars with Kashmir as the primary flashpoint. Historically, conflict relied upon conventional military assets. However, cyber warfare and electronic warfare advancements have redefined the parameters of engagement.

Technological Evolution

Pakistan's Modernization: Since 2018, Pakistan has sourced 81% of its military hardware from China, including J10C fighters, PL15E missiles, and Link 17 data systems [6], [2].

India's Western Partnerships: India imports 54% of its arms from the U.S., France, and Israel, focusing on Rafale jets and AI-enabled satellite systems [4].

Economic Context

Defense Budgets: India's $76.6 billion defense budget dwarfs Pakistan's $11.4 billion, yet Pakistan's cost-efficient Chinese systems offset this disparity.

Problem Statement

The rapid integration of cyber capabilities, AI, and networked systems has created asymmetries in military readiness. Key questions embrace:

a. How do Pakistan's Chinese-backed systems offset India's technological superiority? What vulnerabilities emerge from reliance on foreign technologies?
b. How might economic constraints or geopolitical alliances influence future conflicts?
c. What are the broader implications for regional stability and global defense markets?

Rationale

Analyzing these dynamics is critical to understanding:

1. The role of cyber warfare in non-kinetic conflict escalation.
2. The economic and strategic implications of defense-industrial partnerships.
3. The ethical and operational challenges of AI in combat decision-making.

CRITICAL ANALYSIS (SWOT)

Strengths: Pakistan's Technological Edge

Integrated Kill Chain

Network Centric Warfare: Pakistan's F2T2EA (Find, Fix, Track, Target, Engage, Assess) kill chain minimized targeting latency by 60%, leveraging KJ500 AEW&C systems and BeiDou satellite integration [7].

PL15E Missile Dominance

With a 145 km range and Mach 5.2 speed, the PL15E ($2.1M) neutralized Rafale jets ($250M), creating a 1:120 cost asymmetry.

Doctrinal Alignment with China

Pakistan's adoption of China's "systems of systems" approach ensures interoperability across all platforms, contrasting with India's reliance on incompatible Western, Russian, and indigenous systems.

Strategic Partnerships

Sino-Pak collaboration enabled real-time data fusion across J10Cs, AWACS, and ground radars, boosting situational awareness.

Weaknesses

Systemic Vulnerabilities

Supply Chain Risks:

Over 80% of dependency on Chinese technology exposes Pakistan to sanctions or supply disruptions.

Indigenous Limitations

Pakistan's JF17 program relies on Chinese avionics, limiting autonomous upgrades.

OPPORTUNITIES: GEOPOLITICAL AND ECONOMIC GAINS

Defense Export Potential

Pakistan's success in Kashmir could position Chinese PL15E missiles as competitive exports to Middle Eastern nations [1]. Post-conflict interest from 14 countries in PL15E missiles positions China as a leader in cost-effective BVR (Beyond Visual Range) technology.

Indigenous Collaboration

Collaboration with Turkey and Iran on drone swarms and electronic warfare systems [8]. Joint development of the JF17 Block IV with AI-driven EW (Electronic Warfare) suites could lower external dependencies.

THREATS: STRATEGIC ADAPTATIONS AND RISKS

Indian Countermeasures

India's $45 billion NETRA II program aims to develop indigenous AEW&C systems and AI-enabled fusion centers. India's investment in AI-enabled satellites and Israeli counter-drone tech threatens Pakistan's tactical edge [4].

Global Sanctions

U.S. sanctions under the Countering America's Adversaries Through Sanctions Act (CAATSA) could block Pakistan's access to critical Chinese components. The Indian investments in AI-enabled satellites and Israeli counter-drone tech threaten Pakistan's tactical edge [4].

DESCRIPTIVE CASES

Case 1: May 2025 Kashmir Skirmish

Engagement Details: A PL15E missile, guided by KJ500 radar, destroyed an Indian Rafale at 182 km, exploiting BeiDou satellite targeting.

Market Impact: AVIC Chengdu's stock surged 40% ($4.8B gain), while Dassault Aviation lost $1.2B in market cap (Figure 1).

Case 2: The First Drone War

Tactics: Pakistan deployed Chinese CH92 drones for ISR (Intelligence, Surveillance, Reconnaissance), countering India's Israeli Heron TP drones [8].

Economic Data: Drone procurement costs rose 27% in 2024–2025, reflecting regional demand [6].

Case 3: The Kill Chain in Action (May 2025)

Scenario: A Pakistani KJ500 detected an Indian Rafale at 200 km, cueing a J10C to launch a PL15E. The missile's dual-pulse motor and AI-guided targeting achieved a kill at 182 km—a record for BVR combat.

Impact: The engagement validated China's "decision-centric warfare" model, prompting India to fast-track its indigenous Astra Mk3 missile program [7].

Economic Data

Table 1: Stock Performance of AVIC Chengdu vs. Dassault Aviation (May 2025)

Entity	Stock Movement	Financial Impact
AVIC Chengdu	+40% (May 7–9)	$4.8B valuation gain
Dassault Aviation	-6% (May 7–8)	$1.2B market cap loss

Source: *Economic Times (2025), Tech.i (2025)*

Table 2: India-Pakistan Defense Budget and Import Data

Metric	India	Pakistan
Defense Budget (2024)	$76.6B	$11.4B
Arms Imports (2020–2024)	54% from the U.S./France	81% from China

Source: *SIPRI (2024), World Bank (2024)*

Technical Specifications

Table 3: Comparative Analysis of Key Systems

System	Specification
J-10C (Pakistan)	4.5-gen fighter, AESA radar, Mach 2.2
PL-15E Missile	145 km range, Mach 5.2, AI terminal guidance
Rafale F3R (India)	SPECTRA EW suite, Meteor missile (100 km)

Source: *Army Recognition (2025), CNN (2025)*

DISCUSSION

During the Kashmir conflict in 2025, China's "kill chain" integration into contemporary warfare can revolutionize warfare. Pakistan's F2T2EA (Find, Fix, Track, Target, Engage, Assess) system—centered on KJ-500 airborne early warning and control (AEW&C) platforms, J-10C fighters, and PL-15E missiles—compressed targeting cycles by 60%, enabling a Rafale's destruction at 182 km [9]. This engagement highlighted the PL-15E's dual-pulse motor and AI-driven terminal guidance, which exploited BeiDou satellite updates to bypass India's SPECTRA electronic warfare systems [1]. Such integration contrasts sharply with India's fragmented reliance on French, Israeli, and Russian systems, which struggled with interoperability during critical phases [3]. While Pakistan's success validated China's "systems-of-systems" doctrine, its 81% dependency on Chinese technology exposes vulnerabilities to geopolitical disruptions, such as U.S. sanctions under CAATSA [2]. Conversely, India's $1.2 billion loss in Dassault Aviation's market cap post-conflict underscores the risks of platform-centric strategies in an era of networked warfare (Tech.i, 2025). The kill chain's efficacy—amplified by cost asymmetry ($2.1M PL-15E vs. $250M Rafale)—demonstrates that future conflicts will prioritize cohesive technological ecosystems over individual assets [5].

CONCLUSION

The Kashmir conflict of 2025 demonstrated the transformative effect of technological asymmetry and network-centric warfare on contemporary conflict. Three trends emerged that altered regional and global military paradigms. First, cost asymmetry changed the economics of engaging these assets: through the loss of its one Rafale aircraft ($250 million), India spent over three-quarters of a billion dollars to protect

its airspace, whereas Pakistan's PL-15E missile ($2.1 million) neutralized India's Rafale, giving a cost-per-kill ratio of 1:120. The aerial engagement cost asymmetry is compounded further because the PL-15E has a range of at least 145 km and a flight speed of Mach 5.2. The engagement also revealed vulnerabilities in platform-centric procurement practices. Second, AI dominance enabled machine-speed decision-making. The PL-15E's AI-driven terminal guidance bypassed India's SPECTRA electronic warfare systems, exploiting radar blind spots through real-time BeiDou satellite updates. Such engagements reduced human reaction windows to seconds, raising ethical questions about autonomous lethality.

Finally, China's C4ISR (Command, Control, Communications, Computers, Intelligence, Surveillance, Reconnaissance) superiority catalyzed strategic realignment. The integration of KJ-500 airborne early warning systems, J-10C fighters, and Link 17 data links created a cohesive kill chain, compressing targeting cycles by 60%. This "systems-of-systems" approach contrasted sharply with India's fragmented Western-, Russian-, and indigenous-sourced platforms. Geopolitically, Pakistan's 81% reliance on Chinese technology bolstered Beijing's influence, while India's Rafale-dependent strategy encountered scrutiny after $1.2 billion market cap losses for Dassault Aviation.

Future conflicts will prioritize integrated networks over standalone platforms. China's blueprint—combining cost-effective missiles, AI-enabled targeting, and satellite-driven C4ISR- sets a sheer precedent for global defense markets. As India invests in indigenous AEW&C systems and counter-drone technologies, the Kashmir conflict underscores a critical truth: victory in hyper-warfare hinges on seamless technological ecosystems, not relying on individual assets.

Funding: This research was conducted without the assistance of any external funding sources.

Conflict of Interest: The authors declare that there are no conflicts of interest.

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