The Role of Pakistan in Co-developing JF-17 Thunder with China

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Abstract

This paper examines the co-development of the JF-17 Thunder by Pakistan and China as a study of defence-industrial collaboration shaped by geopolitical necessity. It traces the origins of the programme, evolution, and major stakeholders involved. The paper further delves into the implications of the joint venture for India and the United States. Using a comparative analytical approach, this paper examines the difference between strategic leverage and self-reliance. It also highlights the growing Chinese influence and the U.S. Rather than viewing the JF-17 Thunder solely as a military platform, the paper argues that it acts both as a strategic as well as a diplomatic instrument.

[Keywords: Defence Industry, Co-development, Technology, Sanctions, Strategic Autonomy, Alliances, Aerospace, Geopolitics]

Introduction

Modern day warfare is no longer defined only by technological competitiveness. Amidst the growing instability in the global security landscape, the struggle for air power dominance undermines more than a quest for technological progress. The efforts made by Pakistan and China are slowly proving that defence production is deeply intertwined with political economy.

The JF-17 Thunder headlines represent more than just another export news. It illustrates how Pakistan adapt to constraints by changing alliances and making evident the interdependence between defence production and geopolitical strategy. The JF-17 programme addressed the urgent need to reduce dependence on Western sanctions for Pakistan. It opened a platform for China to consolidate its role as a dependable security partner, which China leveraged. In this manner, the programme resulted in the institutionalization of Pakistan and China's long-standing bilateral relationship in the guise of an industrial framework.

Existing research about the programme suggests focus on the specifications of the aircraft and its variants. Relevant data reveals the pattern of the aircraft being treated either as a military platform or as a bilateral defence cooperation. There is not enough academic discourse available on the export narrative viewed through a broader political-economic lens. Moreover, the conversation about the U.S presence require more than just a reference point for its past sanctions.

This study aims to address these gaps by re-contextualizing the JF-17 programme by systematically building an academic narrative that connects defence innovation with political economy. The paper brings in contemporary military aircrafts and evaluates how the programme intersects with indigenous development efforts. It talks about the shifts in the U.S.–Pakistan defence engagement.

The research framework of this paper follows a qualitative analytical approach which focuses on comparative analysis and systematic narrative review. It compares the JF-17 with India's Tejas Light Combat Aircraft (LCA) to break down differing development models. An extensive review of literature is carried out with the help of relevant research papers, model reports and official statements of reputed think tanks, governmental agencies and news portals.

1. Background of the JF-17 Thunder Co-development Programme

Pakistan began 2026 with the announcement that the JF-17 fighter had generated procurement interest following a meeting between its Air Chief Marshal Zaheer Ahmed Babar Sidhu and Bangladesh Air Chief Marshal Hasan Mahmood Khan, held on January 06, 2026 in Islamabad[1]. Beyond the immediate signalling of Islamabad's desperate defence diplomacy, the more consequential issue lies in China's intent, as Pakistan's debt obligations to China amount to approximately $29 billion, representing nearly 22% of its total external debt.[2]

Figure 1 JF-17 Thunder source:bharatshakti.in

Historically, the JF-17 fighter program was forged by counter-sanction imperatives arising from Western-controlled provisions, prompting Pakistan to pursue measures to sustain the Pakistan Air Force (PAF) amid prolonged uncertainty and strategic ambiguity.[3] The JF-17 fighter came into existence as a result of a joint development program between the Pakistan Aeronautical Complex (PAC) and China's Chengdu Aircraft Corporation (CAC), involving a structured 50/50 cost-sharing model for the initial $500 million project budget, split equally between the two countries[4]. The Fighter China-1 (FC-1), which was the Chinese-designated name of the aircraft, was developed to replace outdated aircraft such as the Nanchang Q-5, Chengdu J-7, Sand Dassault Mirage III.

[1] *Bangladesh Expresses Potential Interest In Procuring JF-17 Fighter Jets, Says Pakistan*. 07 January, 2026. Deccan Chronicle
[2] *Understanding Pakistan's reliance on Chinese Debt*. 19 May, 2025. GlobalOrder
[3] *How a US Mistake Handed Pakistan's Arms Market to China*. 04 August, 2025. Quwa
[4] *CAC/PAC JF-17 Thunder*. Wikipedia

2. Historical Evolution

The genesis of the JF-17 program lies in the late 1980s, when Pakistan was seeking a new fourth-generation multirole combat aircraft and was working with the American aerospace company Grumman on a "Sabre II" project, based on the Chengdu J-7, a Chinese-built derivative of the MiG-21. Pakistan later abandoned the project due to the United States' extensive sanctions regime. Concurrently, China was cooperating with Grumman on upgrading its own Chengdu J-7, which was similarly disrupted following U.S. sanctions imposed after the 1989 Tiananmen Square protests. These shared experiences of sanctions-induced technological disruption prompted a closer Sino-Pakistani defence collaboration, formalized through a memorandum of understanding signed in 1995 to jointly develop the JF-17 Thunder.[5]

Figure 2: PAC, Kamra source: facebook/Pakistan Aeronautical Complex Kamra

The driving factor behind Pakistan's replacement of its ageing fleets is the need for cost-effective modernization, prompted by four decades of punishing service.[6] It may be construed as a routine fleet renewal, but the ambition is fuelled by the apprehension that the PAC would prove impotent in any potential conflict, as the regional security environment is heavily proliferated by cutting-edge capabilities in the backdrop of recurrent cross-border conflicts. This is implicitly reflected in their endeavour to progressively modernize and replace the Mirage fleet with JF-17 Thunder Block IV jets.[7]

The JF-17 Thunder is a Sino-Pakistani joint venture where the production is split between the two countries, with 58 per cent carried out in Pakistan and 42 per cent in China.[8] The partnership exemplifies the integration of China's advanced design capabilities with Pakistan's handling of assembly and operational customization.

However, Pakistan, being a country never considered a major defence industry, their expertise remains nascent. Expansion of production means boosting the supply chain and securing it is a bigger challenge because the growing demand size will justify further Chinese capital

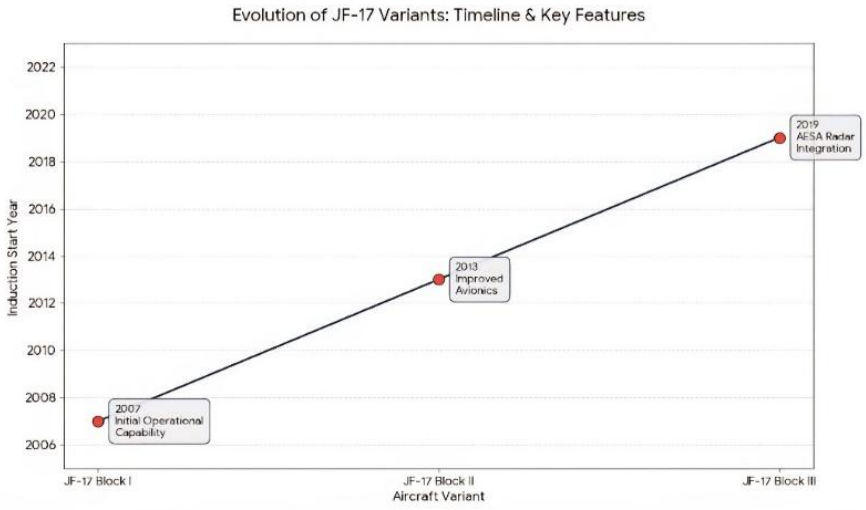
[5] *JF-17 Thunder: Did You Know China & Pakistan Teamed Up To Produce A 21st Century Combat Aircraft?* 19 March, 2024. Simple Flying
[6] *Pakistan Air Force on Brink to Retire Nearly Half of Fighter Jet Fleet by 2030, Bets Big on Chinese J-31 and J-10C Jets*. 23 February, 2025. Defence.In
[7] *Pakistan Air Force: Maintaining Strength against IAF Amid an Aging Fleet*. 14 December, 2024. IDRW
[8] *Why is Pakistan selling its JF-17 fighter jets to Bangladesh and others?* 09 January, 2026. Aljazeera

infusion in the programme, which will make Pakistan suffer capital influx that prioritizes export variants over the PAC's core imperative of replacing its existing aged old fleets.[9]

3. Variants

Variant	Key Features	Induction
JF-17 Block I	Initial operational capability; basic multirole and BVR functions	2007-2013
JF-17 Block II	Improved avionics, in-flight refuelling capability, enhanced weapon integration	2013-2017
JF-17 Block III	AESA radar, improved EW suite, enhanced sensor fusion, PL-15 missile compatibility, partial 4.5-generation features	2019-Present
JF-17 Block IV	New air-to-air and air-to-surface munitions, integration of indigenous weapons like passive Infrared Search and Track (ISRT) sensor and an electronic warfare (EW) suite with AESA radar-jamming capability[10]	Future development

After the MoU in 1995, prototypes rolled out in 2003, redesigned by 2006, with sub-assemblies started in Pakistan in 2008 and finally full assembly in 2009.[11] The JF-17 Block production began after Pakistan PAC Kamra's assembly readiness, starting with Block I as the initial serial run, followed by Block II and Block III, as the sequential production variants evolved through upgrades as production scaled over the years[12].



[9] *As 'orders' outpace production, Pakistan's JF-17 fighter jet faces a 'sweet problem', claims Chinese defence expert.* 05 February, 2026. TheWeek

[10] *CAC/PAC JF-17 Thunder*. Wikipedia

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[12] *JF-17 Thunder: Did You Know China & Pakistan Teamed Up To Produce A 21st Century Combat Aircraft*. 19 March, 2024. Simple Flying

The JF-17 Thunder is a flexible armament across its Block I-III variants as it can switch between air strikes, ground attacks, sea strikes and reconnaissance missions[13]. It has a length of 14.93m, a wingspan of 9.44m, and a height of 4.77m. Its maximum take-off weight is 13,500 kg, and it has a maximum speed of 1,910 km/h, corresponding to Mac 1.6.[14] Within the contemporary multirole fighters, aircraft like Lockheed Martin F-16 Fighting Falcon of the U.S, distinguished by its technical maturity since its 1978 induction, has set itself as the gold standard of versatility, leveraging its Mach 2+ performance, 4,220km range, and 7,700kg ordnance for expeditionary edge in coalition operations.

4. Comparative Study of JF-17 and Tejas LCA

Within the context of developing lightweight multirole fighter aircraft, India has pursued an indigenous pathway through the development of the HAL Tejas Light Combat Aircraft (LCA), intended to strengthen domestic aerospace capabilities while meeting the Indian Air Force (IAF)'s evolving operational requirements. India's Tejas LCA exhibits an indigenous content of 62% with a target of 70% in the second batch[15].

It becomes necessary to evaluate the two platforms through a systematic analytical framework to understand how different development ideologies can influence overall mission effectiveness and long-term readiness.

A comparative study of HAL Tejas Light Combat Aircraft (LCA) and PAC's and CAC's JF-17 Thunder will help us understand the critical role of indigenization in defence production. The Tejas LCA is India's first indigenously designed supersonic fighter, highlighting India's emphasis on Aatmanirbhar Bharat[16], and on the other hand, the JF-17 Thunder emerges from a joint China-Pakistan initiative, which was the Super-7 upgrade project, with the primary aim of meeting the PAF's requirements[17].

Figure 3: JF-17 Thunder (top), Tejas LCA Mk1 (bottom source: fighterjetsworld.com

[13] *JF-17 Thunder: Development, Design, Capabilities, Operational History, And Global Impact*. Scribd
[14] *JF-17 Thunder Fighter Aircraft*. JetBattle
[15] *HAL Targets 70% Indigenous Content in Second Batch of Tejas Mk1A, Says Chairman Dr. DK Sunil*. 22 September. 2025
[16] *LCA Tejas: All about India's first indigenously-developed fighter jet*. 21 November, 2025. The Statesman
[17] *The JF-17 is China & Pakistan's Aircraft that can do Everything*. 09 February, 2024. planehistoria

Feature	Tejas LCA	JF-17 Thunder
Origin	India (HAL/ADA)	Pak+China (PAC +CAC)
Generation	4.5	4+
Length & Weight	13.2m & 13,500kg	14.9m & 13,500kg
Max Speed	Mac 1.6-1.8	Mac 1.6-1.8
Engine	GE F404-IN20	RD-93/KLIMOV
Combat Range	500km	800-1200km

The origins of both aircraft are distinct, as JF-17 is a cost-sharing joint venture, and Tejas is India's unilateral indigenous ambition, yet the degree of indigenous production cannot be equated with an operational edge. The operational value of an aircraft depends upon crucial factors such as systems integration, logistics, sustainment and operational success.

The JF-17 Thunder prioritizes cost-effectiveness, operational readiness, and export success, which makes it a good option for budget-constrained air forces. The platform has evolved incrementally through three successive block variants. Over the years, the aircraft went through modernization with phase-wise incorporations of advanced avionics, weapon integration, and improved radar capabilities. However, the progress lacked deeper technical scrutiny and overlooked the inherent limitations of the aircraft. As a result, there were cases of the aircraft being grounded on several occasions due to issues such as cracks in guide vanes, exhaust nozzles, and flame stabilizers.[18] These reflect the PAC's foundational design incompetence and lack of required emphasis in airframe refinement, kinematic performance, and long-term capability development.

5. Strategic and Geopolitical Implications

Consequently, the news of export deals of the JF-17 cannot be overlooked, not only as a growing defence-industrial endeavour but also for its implications of China's and Pakistan's maturing partnership, with both positioning themselves as battle-ready on the global arms market.[19] By co-developing and funding relatively affordable military platforms for partner states, China asserts itself as an alternative security provider to the United States, particularly for countries seeking to diversify away from strict sanctions regimes. The JF-17 thus serve a twofold purpose - as a military asset for Pakistan and a diplomatic instrument for China.

5.1 Implications for the U.S

The development of the JF-17 by Pakistan, in partnership with China, is an attrition for the U.S, undercutting and bottlenecking America's desired monopoly over Pakistan's defence industry. The U.S's imposition of constraints, such as the Pressler Amendment in the 1990s, was effective more as a blunder than a boon, because American strategists and technocrats undermined that sustaining a monopoly is unachievable through confrontation and influence must be won only through clever negotiation[20]. In the attempt to tackle Pakistan's growing

[18] *Pakistan's JF-17 'Thunder' Production Line To Continue With New PFX Variant Despite Technical Glitches*. 05 March, 2024. eurasiantimes

[19] *A Strategic Signal: Why Pakistan's JF-17 Has Entered The Regional Conversation*. 14 January, 2026. indiasworld

[20] *Pakistan's Sanction Waivers: A Summary*. 29 October, 2001. Carnegieendowment.org

nuclear capability, the U.S ended up achieving the opposite. What began as political pressure on Pakistan spurred collaboration with China.

During the 1980s, the U.S delivered 40 F-16A/B Block 15 jets to Pakistan, after which deliveries were abruptly withheld due to the Pressler Amendment and the 9/11 incident.[21] The US, once the sanctions provider for the JF-17's development, is now out of Pakistan's trending export deals and maintains only a strategy of minimal engagement after Pakistan chose China as the developing partner. Yet, recent developments suggest a selective form of engagement, as reports indicate that Washington has approved a $686 million arms package aimed at modernizing Pakistan's ageing F-16 fighter fleet, a move that may raise strategic concerns in India[22]. This dual approach of absence in one domain but targeted support in another highlights the U.S's shift toward conditional participation instead of comprehensive engagement.

5.2 Implications for India

If the announced JF-17 export deals succeed, India faces a challenge that goes beyond China's growing military presence in the region. India would need to speed up Tejas Mk1A deliveries, fund AMCA stealth prototypes, and secure new export deals (such as with Argentina) to maintain its strategic edge.[23] If not, the JF-17 could become South Asia's F-16 equivalent by achieving regional dominance.[24] Although Pakistan's exporting the JF-17 does not threaten or put India's qualitative edge at stake, the proliferation of the aircraft could influence our regional security environment.

Pakistan is clearly aiming to expand its partnerships with the sales and prospects of JF-17, as evident from the agreements with countries like Bangladesh, Saudi Arabia, Libya, Myanmar, Azerbaijan, Nigeria, etc.[25] Their emphasis on preferential or strategically motivated sales to selected partners, especially Muslim-majority and African countries, further indicates that these exchanges are not purely export-oriented but are embedded within a broader political and ideological agenda, underscoring their exploitation of defence exports as instruments of debt-clearance. A closer look at the genesis of these export agreements clearly underlines a deliberate attempt to leverage cost-effective military technologies as a means of saving their crumbling economy.

6. Conclusion

A critical review of their export-related news exposes significant gaps between claims and evidence. Despite the headlines of export deals and agreements, there is no empirical data to support the claims.[26] In reality, many of the deals appear largely aspirational, with references originating primarily from Pakistani press releases, air shows, and unverified sources[27].

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[22] *No Link 22 For Pakistan's F-16 Jets! Why U.S Only Trusts 7 Allies With Its Most Secure Air Combat Network?* 13 December, 2025. eurasiantimes
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[26] *No buyers, zero deals: Why Pakistan has not sold a single 'combat-tested' JF-17 fighter jet despite loud claims*. 20 January, 2026. moneycontrol
[27] *Pakistan's JF-17 Export Claims Outspace Industrial Reality*. 08 February, 2026. TheSundayGuardian

Furthermore, the statements from Pakistan's senior leadership also add onto the ambiguity. For instance, Minister of Defence Production Harraj acknowledged that "interest does not equal commitment", while Prime Minister Shehbaz Sharif claimed that active negotiations with "several countries" are going on for JF-17 acquisitions.[28] The statements proved contradictory. This rhetorical emphasis on preliminary self-interest rather than on demonstrable commitments underscores the pattern of Pakistan's self-instructed defence promotional campaign.

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