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Picture source: Flt. Lt. Dayyan, November 15, 2022, *Facebook*, <https://www.facebook.com/photo/?fbid=166952992631837&set=a.157199360273867>.

Lessons from the Indo-Pakistani Air Battle

By *Holmes Liao*

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7-10, 2025, characterized by the deployment of drones, cruise missiles, ballistic missiles, and long-range air defense systems, offered a glimpse into the complexities of high-tech warfare. While the scale of the Indo-Pakistani conflict was limited, its tactical employment, the intricate nature of its information warfare, and China's indirect role in the conflict all provide invaluable lessons for Taiwan's defense strategy.

Conflict Overview and Battlefield Dynamics

The information environment surrounding the Indo-Pakistani conflict was fraught with confusion and misinformation, making it challenging for external observers to fully ascertain the precise outcomes. Nevertheless, by piecing together fragmented reports and analyses, several key aspects of the engagement emerge.

The air battle marked a major doctrinal shift in air combat, showcasing an engagement in which Pakistani J-10C fighters launched PL-15 beyond-visual-range (BVR) missiles using targeting data from ground-based radars. The missiles were guided mid-flight by a Saab 2000 Erieye AEW&C platform, while the J-10C itself remained electronically silent, without activating its own radar. The third-party targeting denied Indian pilots radar warnings, leaving them without any advance cue to deploy countermeasures.

The J-10C's KLJ-7A AESA radar system, in theory, outranges the Rafale's Thales RBE2 AESA radar by approximately 50 kilometers. In reality, actual detection and tracking ranges depend on numerous variables, including aircraft altitude (which affects the radar horizon), target radar cross-section, the electronic warfare environment, and whether electronic countermeasures were employed. In any case, Pakistani pilots could have the critical "first-look, first-shoot, first-kill" advantage. In contrast, Indian aircraft suffered from poor network integration, with Rafale, Su-30, and Mirage-2000 unable to share data effectively.

India's most advanced fighter jet, the Rafale, can carry Meteor and MICA, long-range air-to-air missiles. Pakistani electronic warfare and a likely absence of Indian Meteor missiles further degraded India's capabilities. The engagement highlighted the limitations of relying solely on advanced platforms; Pakistan's success stemmed from the integration of sensors, robust command-and-control

networks, and faster decision-making loops. It serves as a stark reminder that in modern air warfare, superiority is no longer defined by hardware alone, but by the quality of information flow and coordination across systems.

The extensive use of unmanned aerial vehicles (UAV) by both sides was also a defining feature. Pakistan reportedly launched between 300 and 400 drones, including Turkish-made Yiha-III kamikaze UAVs, though satellite imagery indicated minimal damage to Indian territory. India, for its part, primarily employed smaller UAVs for intelligence, surveillance, and reconnaissance (ISR) purposes, and utilized Israeli-produced Harpy and Harop drones as decoys and anti-radiation UAVs, along with British Banshee target drones for deception. This deployment of "expendable" UAVs appeared designed to probe enemy air defense systems and deplete their costly air defense munitions.

The conflict also marked the first operational use of missiles by both countries. India initiated cruise missile strikes against Pakistan, employing Russian-jointly developed long-range, ramjet-powered supersonic BrahMos cruise missiles, as well as European SCALP-EG (Storm Shadow) cruise missiles and HAMMER glide bombs. These precision standoff weapons successfully struck Pakistani airbases and command centers. Pakistan retaliated with conventional short-range ballistic missiles, specifically the Fateh-I and Fateh-II, and launched Chinese CM-401 hypersonic anti-ship missiles from upgraded JF-17 Xiaolong fighter jets against land targets, though no confirmed impacts were reported.

Notably, traditional dogfights between opposing fighter jets were absent. All aerial engagements seemingly occurred beyond visual range, with neither side's aircraft crossing the international boundary. This underscores the evolving nature of air combat, emphasizing the primacy of sensors, missiles, and electronic warfare over traditional maneuverability and pilot close-quarters combat skills.

India's formidable integrated, layered air defense system, including Russian-imported S-400 surface-to-air missiles, successfully withstood the intense attacks, effectively intercepting or diverting most of Pakistan's munitions, including ballistic missiles aimed at New Delhi.

China exerted a crucial, albeit indirect, influence on the conflict. Beijing bolstered Pakistan's combat capabilities by supplying advanced weapon systems, such as J-10C fighter jets equipped with PL-15E air-to-air missiles and HQ-9 long-range surface-to-air missile systems. China also reportedly provided real-time satellite reconnaissance data. This presented a valuable opportunity for all parties concerned to observe the performance of Chinese military technology.

Last but not least, the information environment during the conflict was saturated with misinformation and disinformation. The Pakistani government aggressively shaped the narrative, attempting to control the discourse and even disseminating unconfirmed claims of successful strikes. The Indian official accounts appeared slower to react but later effectively countered Pakistani propaganda by releasing satellite imagery to validate their strike assessments. This chaotic information warfare environment highlights the increased risk of miscalculation in future crises.

Key Lessons for Taiwan from the Indo-Pakistani Air Battle

The Indo-Pakistani air battle collectively offers a profound strategic lesson for Taiwan: a smaller country, possessing unwavering will to resist, effective asymmetric warfare capabilities, robust whole-of-society efforts, and flexible tactical adaptability, can resist against a more powerful invading force. Taiwan's defense strategy should be centered on this core principle to impose unbearable costs on the Chinese aggressor.

The Indo-Pakistani conflict highlights the importance of asymmetric warfare in confronting a superior power. For Taiwan, this translates into mass procurement of cost-effective, expendable weapons. The extensive use of UAVs in the two conflicts demonstrates that even small or expendable platforms can effectively harass the enemy and deplete their costly air defense munitions.

Taiwan should emulate Pakistan's approach by deploying a large quantity of various UAVs (including kamikaze drones, reconnaissance drones, and decoy drones). Concurrently, Taiwan must significantly increase its inventory of man-portable anti-tank missiles (such as the Javelin) and portable air defense missiles (like the Stinger), ensuring their widespread distribution and comprehensive training to enhance its ability to counter threats against amphibious landing forces and low-altitude targets. As in Ukraine, the Stinger could be outfitted on

unmanned surface boats.

India's successful use of precision standoff weapons to strike Pakistani bases underscores the criticality of Taiwan's High Mobility Artillery Rocket System (HIMARS) platforms, equipped with advanced surface-to-surface missiles such as the Army Tactical Missile System (ATACMS) and the next-generation Precision Strike Missile (PrSM). These mobile systems provide Taiwan with the capacity to conduct precision strikes against critical military assets along China's southeastern coast.

The BVR engagements in the Indo-Pakistani air battle and India's potent electronic warfare (EW) systems underscore the decisive role of electronic warfare in modern combat. Facing the PLA's numerical superiority, electronic warfare will be a crucial "force multiplier" for Taiwan. Taiwan must integrate electronic warfare (EW) capabilities across all its combat platforms, from fighter jets to UAVs and even ground forces, to disrupt enemy command and control, target identification, and weapon guidance systems.

Equally important, if not more, is sensor fusion and battlefield situational awareness. The Indo-Pakistani conflict highlighted that comprehensive battlefield situational awareness is the cornerstone of decision-making. Taiwan should fortify its early warning capabilities, ensuring high-efficiency, anti-jamming data links between fighter jets, missile batteries, surface combatants, and ground command and control (C2) centers to achieve multi-source information fusion. This will provide real-time, precise, friendly and enemy positions and threat information, enabling Taiwan's military to execute more accurate strikes and defenses with limited resources.

Taiwan operates E-2T early warning aircraft to extend its radar coverage and enhance situational awareness over regional airspace. However, the PLA's PL-17 long-range air-to-air missiles, capable of engaging targets at distances approaching 400 km, pose a direct threat to these high-value platforms. By placing the E-2Ts within the PL-17's engagement envelope, the PLA could deny Taiwan the safe operating space required for effective airborne surveillance, severely undermining the country's ability to detect and respond to advances in its vicinity. Moreover, Taiwan's limited geographic size and lack of strategic depth force its E-2Ts to operate relatively close to hostile territory, further

reducing their survivability against long-range missiles. It is unsurprising that the U.S. declined Taiwan's request last year to procure additional E-2 aircraft.

India's robust layered integrated air defense system demonstrated impressive performance in the conflict, offering direct lessons for Taiwan. India's success in intercepting ballistic missiles during the conflict holds significant implications. Taiwan should accelerate the development of a multi-layered air defense system that encompasses short-range, medium-range, and long-range missiles, along with both kinetic and non-kinetic counter-UAV systems. This should involve both fixed positions and mobile deployments to counter saturated attacks and ensure continued operation even if some systems are destroyed. The focus must be on defending against missiles, cruise missiles, and large drone swarms.

The armed conflict underscored the immense consumption of ammunition during modern warfare. Taiwan must significantly increase its strategic reserves of various missiles and ammunition and assess the feasibility of rapidly expanding domestic ammunition production capabilities to sustain a protracted conflict.

Despite the long-range nature of the Indo-Pakistani air battle, the quality of pilot training and proficient weapon system utilization remained paramount. Taiwan should continue to invest heavily in high-intensity, simulated training scenarios tailored to the PLA threat, fostering pilots' tactical innovation and independent judgment.

The conflict highlighted the importance of information integration between different weapon systems. When procuring new armaments, Taiwan must ensure their effective integration with existing assets to achieve seamless information sharing and collaborative operations across platforms. This includes data links and command and control between fighter jets, UAV operators, missile batteries, and similar assets.

The Indo-Pakistani conflict revealed the tumultuous yet critical nature of information warfare. Taiwan must establish a rapid-response information warfare mechanism that can not only effectively counter disinformation and cognitive warfare from China but also proactively engage in information

operations. This involves transparent and timely information dissemination to shape the international narrative, expose enemy aggression, and garner international sympathy and support. The Indo-Pakistani conflict serves as a valuable case study for Taiwan's yet-to-be-shaped, whole-of-society information strategy.

Conclusion

Lessons from the Indo-Pakistani conflict include the crucial role of asymmetric warfare, electronic warfare, integrated air defense, rigorous training, effective information warfare, and, most critically, whole-of-society resilience and a robust civil defense system to raise deterrence costs and ultimately achieve self-defense.

Taiwan's defense build-up must absorb these invaluable lessons, shifting its focus from solely acquiring expensive, singular platforms to constructing a resilient, dispersed, intelligent, and comprehensively participatory overall defense system. This is not merely a military challenge; it is a shared national undertaking. Taiwan's future will depend on its ability to transform these hard-won lessons into concrete defense and civil defense strategies and to genuinely implement them.

(Holmes Liao brings over 36 years of professional experience in the U.S. defense and aerospace industries. He previously served as a distinguished adjunct faculty member at Taiwan's War College.)

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