



### KARGIL VIJAY DIWAS RAJAT JAYANTI IAF DEMONSTRATES THE DECISIVE CAPABILITY OF AIRPOWER

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The Indian Air Force has a distinguished heritage of bravery and selflessness, as demonstrated by its courageous air warriors who fought with great heroism in the Kargil War in 1999, a significant event in the annals of air warfare. The Indian Air Force (IAF) demonstrated extraordinary professionalism by deploying its aerospace might at the highest known altitude globally during 'Operation Safed Sagar'. The IAF aircraft operated at heights over 20,000 feet, a remarkable achievement that had never been attempted by any air force in the world. They effectively overcame the challenges presented by the tremendously high operating altitude and harsh weather conditions. These extreme conditions created distinctive operational impediments while engaging the enemy. To ensure mission accomplishments at the highest battleground on the planet, the IAF quickly engineered innovations in technology and hands-on systems knowledge, which proved to be highly valuable. This enabled the IAF to successfully use airpower to evict the Pakistani soldiers from their entrenched positions in the icy heights of Kargil.<sup>1</sup>

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#### The Beginning

Pakistan's code name for the Kargil War was 'Operation Koh-e-Paima'. This Operation was initiated for several reasons:<sup>2</sup>

(a) to take advantage of Pakistan's nuclear tests in 1998,

(b) the decline of insurgency in Jammu & Kashmir,

(c) the rising discomfort within the Pakistani military establishment caused by the improving relationship between the Prime Ministers of India and Pakistan, Atal Bihari Vajpayee and Nawaz Sharif, and

(d) the concerns among Pakistani generals about the diminishing importance of the Kashmir issue and the exclusion of the term 'Kashmir' from the Lahore Declaration.

On January 16, 1999, the Pakistani Chief of Army Staff (COAS) approved Op Koh Paima, less than five weeks before the two prime ministers signed the momentous Lahore Declaration on February 22, 1999. The Pakistani army initiated the occupation of territories in the Kargil region shortly afterwards. The Director General Military Operations (DGMO) of the General Headquarters (HQ) informed Pakistani Prime Minister Nawaz Sharif of Op Koh Paima on May 17, 1999. At that point, the Pakistani army had firmly established itself within the Indian territories.<sup>3</sup> The Indian Army had already detected the presence of Pakistani forces on Indian soil on May 3, 1999.<sup>4</sup>

The infiltration and the battle to evict the Pakistani troops took place on a 160-kilometre stretch of ridges overlooking the only road route between Srinagar and Leh.<sup>5</sup> Attacking targets uphill puts an attacker at a significant disadvantage. It was appreciated at the Army Headquarters that the maximum available airpower would need to be requisitioned before infantry battalions could launch physical assaults to regain each position. Formation commanders emphasised the necessity of destroying the enemy's prepared positions through coordinated preparatory bombardment to reduce the combat potential of the posts and break the enemy's will to fight.<sup>6</sup>

The initial demands for air support were received by the IAF on May 11, 1999, specifically for attack helicopters. In view of the ground reports, on May 25th, the Cabinet Committee on Security (CCS) gave the IAF permission to conduct offensive operations against the infiltrators while ensuring that they do not cross the Line of Control (LoC). On May 26, 1999, the Indian Air Force was expeditiously deployed for Operation Vijay with the objective of evicting the Pakistani Army from Indian territory.<sup>7</sup>

## Air Operations

The Kargil battle highlighted the necessity for a resilient and adaptive military plan. During a commemorative event held in New Delhi on July 18, 2024, on the occasion of the 25th anniversary

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of Kargil Vijay Diwas, Chief of Defence Staff General Anil Chauhan said, “The Kargil conflict highlighted the significance of maintaining vigilance and preparedness for safeguarding our borders. It also emphasised the importance of public and international diplomacy, a strategy which was used effectively to maintain the neutrality of inimical nations and gain global support.”<sup>8</sup>

The IAF's actions during the Kargil conflict exemplify strategic planning, intelligence gathering, and diplomatic efforts despite facing several obstacles. The restricted Intelligence, Surveillance, and Reconnaissance (ISR) capabilities at that time had a huge impact on target identification and battle damage assessment. The surveillance operation conducted by the Canberra aircraft played a pivotal role in the Kargil conflict, as it established the extent and boundaries of Pakistani incursions and furnished essential intelligence. The early detection had a crucial role in the IAF's future actions. The fighter aircraft, MiG-21s, MiG-27s, and Jaguars, carried out Close Air Support (CAS) missions for the ground forces and launched offensive strikes on enemy positions. The Mirage-2000 aircraft executed accurate attacks by employing laser-guided bombs to specifically target enemy bunkers and logistic centres at the dizzying heights of Kargil.

**TABLE 1. IAF COMBAT AND COMBAT SUPPORT SORTIES FLOWN BY AIRCRAFT TYPE**

Type	Number of Sorties	Effort (%)
Fighters	1,730	22.7
Helicopters	2,474	32.4
Transports	3,427	44.9
Total	7,631	100

Source: Indian Ministry of Defence

Source: As cited in, Benjamin S. Lambeth, *Airpower at 18,000': The Indian Air Force in the Kargil War*, September 20, 2012, <https://carnegieendowment.org/research/2012/09/airpower-at-18000-the-indian-air-force-in-the-kargil-war?lang=en>.

Table 1 shows the total number of combat and combat support missions the IAF accomplished for the Kargil operations (from May 11, 1999 to June 24, 1999). A grand total of 7,631 sorties were conducted. In 1999, the Indian Air Force (IAF) possessed a total of 42 fighter squadrons. However, only 90 aircraft were actually put into action, with 45 stationed in the valley and the remaining 45 stationed outside of the valley. The fighter aircraft conducted a total of 1,730 sorties, with 1,643 sorties carried out during the day and 87 sorties conducted at night. Additionally, there were 2,474 helicopter sorties and

3,427 sorties performed by transport aircraft, which is the maximum number of total air effort.<sup>9</sup>

Overall, IAF flew around 5,000 strike missions, 350 reconnaissance/ELINT (Electronic Intelligence) missions, and around 800 escort flights. The IAF helicopters flew over 2,000 sorties towards casualty evacuations and air transport operations.<sup>10</sup>

*Critical Operations:* The IAF aircraft successfully carried out night operations by utilising available technology such as night vision goggles and navigation systems, showcasing their capacity to adapt and ensure the success of their missions. The IAF utilised transport aircraft and helicopters to deliver personnel, equipment, replacement parts, and other necessary support supplies to forward stations, ensuring a consistent and reliable supply chain. IAF helicopters performed courageous rescue operations, extricating injured personnel from frontline regions.

*Coordination with Army:* The Indian Air Force's airstrikes against enemy supply depots and other targets were extremely successful and resulted in significant gains. It is remarkable that every ground action was preceded by airstrikes; this was the result of coordinated planning between 15 Corps and the Air Officer Commanding (AOC), J&K. Both the Indian Air Force and the Indian Army were ideally proving their synchronisation and armed support towards each other, providing a consolidated statement clearly reflecting the might of both the combating forces of India to comfort the citizens. One of the major factors for successful precision targeting during the Kargil War was the exemplary integration and coordinated planning between the IAF and the Indian Army.

The major challenges for the IAF arose due to the high altitude, which impacted the effectiveness of operations in targeting the adversary. The IAF carried out precise bombings, effectively hindering Pakistan's capacity to strengthen its position or retreat, as seen by its failure to effectively evade Indian forces. The successful bombing of Tiger Hill, Muntho Thalo, and Toling operations decisively shifted the balance in favour of India.

Air Chief Marshal BS Dhanoa PVSM AVSM YSM VM ADC, the former Chief of the Air Staff, said, in his address at the Jumbo Majumdar International Conference organised by the Centre for Air Power Studies, on January 31, 2019, "In 1999, during the Kargil War, our Effects-Based Operations (EBO) targeting key Headquarters (HQ) and logistics dumps evicted the enemy from his well-entrenched defensive positions on our side of the Line of Control (LoC)".<sup>11</sup>

*Inactive Pakistan Air Force (PAF):* The Kargil War saw no significant contribution by the PAF, primarily due to the fact that the aerial fight was taking place in the icy heights

of the Himalayas, which made air operations challenging. Moreover, the PAF lacked the necessary capabilities for engaging in combat at high altitudes, and it would have certainly suffered significant casualties if it had made any attempts to intervene.<sup>12</sup>

## Challenges Faced

The Kargil Review Committee (KRC) report particularly emphasised the many constraints faced by airpower operations during the Kargil War. Some of the obstacles mentioned were as follows:

- a) **Weather Conditions:** Adverse weather, characterised by thick fog, overcast skies, and strong winds, impeded combat operations. Due to the differing attributes of the atmosphere, even weapons did not perform as per sea-level specifications.
- b) **High-Altitude Challenges:** Operating at extreme heights posed significant challenges for aircraft and crew. Variations in air temperature and density, altering drag indices and a host of other factors (which had never been calculated by any manufacturer for this type of altitude) caused weapons to go off their mark; for the same reasons, usually reliable computerised weapon aiming devices gave inaccurate results.
- c) **Precision Strike Limitations:** Limited precision strike capabilities and inadequate laser-guided bomb inventory hindered effective targeting. Aircraft Serviceability issues with some aircraft reduced the available fleet.
- d) **Logistical Challenges:** Transporting fuel, ammunition, and spare parts to forward bases was a significant logistical challenge.
- e) **Limited ISR and Air Defence Capabilities:** The IAF's air defence systems were limited in their ability to defend against Pakistani missiles and aircraft.
- f) **Communication Breakdowns:** Communication breakdowns occurred between aircraft and ground stations due to the mountainous terrain, hindering coordination.

The successful overcoming of such extreme conditions is a testament to the IAF's exceptional professionalism and, above all, their resilience, inspiring all who witnessed their actions. The IAF adapted and innovated, leveraging its capabilities to achieve significant success in the Kargil War.

## Lessons Learnt

The IAF has been undergoing a significant modernisation program to address shortcomings identified during the Kargil conflict and enhance its overall capabilities.

The Kargil Conflict led to significant changes in the IAF airpower operations, including:

(a) The IAF is engaged in procuring and advancing modern fighter aircraft, such as the Rafale and Tejas Mk1A, to replace its ageing fleet of MiG series planes. SU-30MKI, Rafale, Tejas Mk1, MI-17 V, and air-to-air refueler aircraft squadrons have been inducted into IAF. Upgradation of the Mirage-2000 and Jaguars is in progress, though it has been excessively delayed. The necessary upgrades in the aircraft have been made for day/night operational capabilities. To enhance air surveillance, Airborne Warning and Control Systems (AWACS), Airborne Early Warning and Control (AEW&C) and Advanced Radar Systems have been introduced in the 'Control & Reporting' network. This focus on strengthening our fleet ensures that the IAF's operational capabilities remain robust and effective.

(b) ISR capabilities were limited, affecting target identification and battle damage assessment. Unmanned Aerial Vehicles (UAVs) and Space resources have been introduced for reconnaissance, surveillance, and target identification.

(c) Establishing a Network-Centric Warfare (NCW) capability has enabled real-time data sharing and enhanced situational awareness for correct and prompt decision-making. Integration of the Army, the Navy, and the Air Force networks is at the advanced stage. This allows for real-time information sharing and coordinated operations across air, land, and sea. The NCW will bolster the joint operations capabilities of all armed services, improving interoperability and coordination.

(d) The air exercises to validate and review the Concept of Operations (CONOPS) are regularly conducted. In addition, area-specific and command-level air exercises simulating realistic war scenarios are regularly conducted for skill and capacity building of air warriors. Advanced training simulators were introduced to hone the skills of aircrew, practice the concept of operations, and enhance pilot training. All pilots are now trained for day and night operations, which will enhance the IAF's capability to operate in the late hours of the day. Regular joint exercises are conducted to enhance jointmanship and interoperability for better cooperation among teams and operational preparedness.

(e) Necessary improvements have been made in the logistics supply chain to ensure all-terrain accessibility for all support and maintenance infrastructure, ensuring higher aircraft serviceability and reduced turnaround times.

These changes have significantly enhanced the IAF's airpower capabilities, transforming it into a more modern, effective, and formidable force.

## Conclusion

Kargil Vijay Diwas is observed annually on July 26 to honour India's triumph over Pakistan in the Kargil War of 1999. The IAF demonstrated its operational capabilities and flexibility in high-altitude warfare, thus eliminated decision-makers' apprehensions. The conflict was also fought against inclement weather, complex terrain, vintage aircraft, arms, ammunition, and equipment. Despite numerous limitations, the IAF improvised and innovated available resources for mission accomplishments. The Kargil conflict at the highest battlefield, therefore, was a significant and historic event due to the strategic choice to employ air power.

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Although the IAF is making advancements, it still encounters challenges like a shortage in squadron strength and long gestation periods to implement aircraft modernisation programmes. Nevertheless, the current endeavours are focused on enhancing the IAF's capabilities and ensuring its self-reliance in the future

## Notes:

<sup>1</sup> Ministry of Defence, Government of India, "Celebration of Kargil Vijay Diwas Rajat Jayanti 2024 At Air Force Station Sarsawa", *PIB*, July 14, 2024, <https://pib.gov.in/PressReleasePage.aspx?PRID=2033075>. Accessed on July 20, 2024.

<sup>2</sup> Lt Col J S Sodhi (Retd), "23 years of Kargil war: When Op Vijay Prevailed Over Op Koh Paima", *The Sunday Guardian*, July 23, 2022, <https://sundayguardianlive.com/news/23-years-kargil-war-op-vijay-prevailed-op-koh-paima>. Accessed on July 21, 2024.

<sup>3</sup> Ibid.

<sup>4</sup> Lt Gen Y M Bammi, *Kargil 1999: The Impregnable Conquered*, (Gorkha Publisher, Noida, 2000), pp 555-558.

<sup>5</sup> Ministry of Defence, Government of India, "The Kargil War: A War That Defied All Odds", [https://www.gallantryawards.gov.in/assets/wars/596980200\\_2022-06-15\\_war.pdf](https://www.gallantryawards.gov.in/assets/wars/596980200_2022-06-15_war.pdf). Accessed on July 21, 2024.

<sup>6</sup> Brigadier Gurmeet Kanwal, *Kargil'99 Blood, Guts and Firepower*, (Lancer Publishers, New Delhi, 2000), pp. 12-22.

<sup>7</sup> Indian Air Force, Government of India, "Ops Safer Sagar", <https://indianairforce.nic.in/ops-1962/>. Accessed on July 20, 2024.

<sup>8</sup> Ministry of Defence, Government of India, "Multiple Initiatives are Being Taken by the Indian Armed Forces to Maintain an Edge Over Our Adversaries: CDS Gen Anil Chauhan", *PIB*, July 18, 2024, <https://pib.gov.in/PressReleasePage.aspx?PRID=2034069>. Accessed on July 20, 2024.

<sup>9</sup> Benjamin S. Lambeth, *Airpower at 18,000': The Indian Air Force in the Kargil War* (Washington: Carnegie, 2012), <https://carnegieendowment.org/research/2012/09/airpower-at-18000-the-indian-air-force-in-the-kargil-war?lang=en>. Accessed on July 21, 2024.

<sup>10</sup> n.8.

<sup>11</sup> BS Dhanoa, “Evolving Facets of Aerospace Power in A Changing World”, *Air Power Journal* Vol. 14 No. 1, spring 2019 (January-March), <https://capsindia.org/wp-content/uploads/2022/01/BS-Dhanoa.pdf>. Accessed on July 23, 2024.

<sup>12</sup> M Kaiser Tufail, “Role of the Pakistan Air Force During the Kargil Conflict”, *CLAWS Journal* 1 Summer 2009, [https://archive.claws.in/images/journals\\_doc/1400825199M%20Kaiser%20Tufail%20CJ%20SSummer%202009.pdf](https://archive.claws.in/images/journals_doc/1400825199M%20Kaiser%20Tufail%20CJ%20SSummer%202009.pdf). Accessed on July 25, 2024



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