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Indian Air Force in the Kargil War: Major Takeaways

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Background

The Kargil conflict of 1999 has been a significant military engagement between India and Pakistan in the present century. It took place in the Kargil district of Jammu and Kashmir, in a primarily high-altitude warfare scenario. The Indian Air Force (IAF) played a crucial role in the military operations conducted by India, contributing significantly to realisation of the strategic and tactical objectives.

The conflict in Kargil was noticed when regular Pakistani troops in the garb of militants, intruded into the Indian side of the Line of Control (LoC) during winters of 1998-1999. They occupied high-altitude positions that overlooked the strategically vital Srinagar-Leh highway, casting a direct eye on India's logistical and strategic interests in the region. The intrusion was detected in early May 1999, and India immediately launched Operation Vijay to evict the intruders from the Indian part of the terrain¹.

Strategic engagement of IAF

The strategic use of air power by the IAF was imperative for several reasons, the first and foremost among them was that IAF provided critical intelligence and situational awareness through aerial surveillance and reconnaissance missions. This helped in accurately mapping the positions of the intruders and assessing their strength besides observing the efficacy of their supply lines. The harsh terrain and high altitudes of the Kargil region had rendered the ground operations exceedingly difficult. On May 11, 1999 the IAF was directed by the government to provide air support using mainly the helicopters.

Subsequently on May 25, 1999, the thumbs up was given by the Cabinet Committee on Security (CCS) to IAF to launch calculated response to the infiltrators from within the LoC. Notwithstanding the adversities, the IAF launched the offensive missions, targeting the well-entrenched hideouts of intruders and the logistics supply routes and logistic dumps. This apart, the aerial presence and active engagement of the IAF served as a significant psychological deterrent to the intruders².

Initial Challenges in Tactical Operations

The IAF faced numerous challenges in the initial phase of the conflict. The most significant limitation was that the constraint of high altitude ranging from 10,000-18,000 feet and the rugged terrain which

rendered the Counter Surface Force Operations (CSFOs) and flying operations extremely difficult. The operations in this terrain were tricky in view of the ridges that were off shoots of K2 Mountain ranges, approximately 8611 metres high and the world's second tallest mountain called Nanga Parbat at a height of approximately 8126 metres and unfavourably enough, both were on the Pakistani side of the mountain range. To further complicate the task were the adverse climatic conditions, permeated with strong winds and fluctuating wind direction. These natural onslaughts made the task harder especially due to a large number of peaks of the Indian side having plodding slopes on the other. The area had peaks of altitudes ranging from 2700 metres at Kargil to 3400 metres in Drass region alongside the Tiger Hill being around 5000 metres high.

Situation remained intricate till IAF could ascertain the suitable aircraft type that could be optimized for high-altitude operations. Initially it was contemplated to utilise the Attack Helicopters as the MiG-21s and MiG-23s had limitations in terms of range and payload at such altitudes. Besides, as per the intelligence reports the intruders were found to be equipped with shoulder-fired surface-to-air missiles (SAMs) which posed a potent threat to the IAF war machines³.

The initial operations by the IAF were marked with low level strikes in the Tololing Sector by Mi-17's, MiG-21, MiG-23 & MiG-27 aircraft. But on 27th May, the loss of one Mi-17 helicopter followed by the two fighter aircraft to Pakistani ground based AD weapon systems on May 28, 1999, brought a turning point in IAF's thought process. Accordingly, the IAF started re-assessing and recalibrating the situation. It was found that only the Mi-17 helicopter could operate at this altitude whereas the Mi-35 attack helicopters could not. Under this situation, the IAF planners started thinking about committing the Mirage-2000 to the conflict to augment its fighter fleet. It was contemplated to press the Mirage 2000s equipped with Thomson-CSF Laser Designator Pod (LDP), called 'ATLIS' equipped with the capability of delivering Matra 1000 kg LGBs. But as per a report in public domain, the weapons used on this platform were very expensive, so it was decided to augment the capability of Mirage-2000 aircraft by adding 1000 lbs bombs with Paveway II LGB kit. To complicate the issue, the spares of this aircraft were on embargo list due to this aircraft having been used as part of the Nuclear Tests conducted by India. But finally, on the 30th May, IAF decided to commit Mirage-2000 to the operations⁴.

Operation Safed Sagar

On May 30, 1999, the IAF launched Operation Safed Sagar under the overall umbrella of Operation Vijay. This operation involved the deployment of a mix of IAF fighter jets, helicopters and the transport fleet to achieve the tactical objectives in the mission mode⁵. The primary aim of the

operations focussed upon achieving and sustaining the air dominance and providing Close Air Support (CAS) to the ground troops. The IAF employed a mix of MiG-21s, MiG-23s, MiG-27s and Mirage-2000 fighter aircrafts⁶.

The Mirage-2000s, with their advanced avionics and weaponry, played a crucial role in carrying out punitive precision strikes over enemy hideouts. These aircraft were equipped with laser-guided bombs (LGBs), which were instrumental in targeting and destroying well-fortified enemy positions and disrupting the supply lines of enemy. The precision bombing by IAF aircrafts significantly degraded the enemy's capability to sustain their positions.

Apart from this, the IAF's Mi-17 helicopters were used in multiple roles like troop transport, casualty evacuation and even in the direct ground attack missions. These helicopters provided critical support in areas where fixed-wing aircraft could not operate effectively due to terrain constraints. In addition, the IAF undertook missions for Suppression of Enemy Air Defence (SEAD). This involved targeting and neutralizing Man-Portable Air-Defence Systems (MANPADS) and other anti-aircraft installations that posed a threat to the aircraft.

Prominent Missions undertaken by IAF in course of conflict & Strategic Upshots

Several missions carried out by the IAF during the Kargil operations stand out for their simply superb tactical brilliance and strategic impact. But the most significant among them was the IAF's offensive on Muntho Dhalo, which was a strategically significant logistics base in Batalik Sector supporting the Pakistani intruders. On the 16th June, this major enemy supply depot was sighted by a Mirage-2000 on the LDP. The very next day, it was hit by another Mirage-2000 of 7 Sqn using dumb bombs. This devastating attack left over 100 dead and 50 structures destroyed. The IAF's precision strikes on this base completely disrupted the enemy's supply chain and significantly weakened their operational capabilities⁷.

This apart, the recapture of Tiger Hill was one of the most significant achievements of the Indian Armed Forces. In this, the IAF provided critical support through precision bombing and Close air support thereby facilitating the ground troops' smooth advance leading to the eventual capture of the peak. To supplement the saga of valour, the Batalik sector saw intense air operations, with the IAF meticulously targeting the enemy bunkers and supply lines. In fact, the deployment of Mirage-2000s in this sector was particularly effective in neutralizing the entrenched enemy positions⁸.

The IAF's contributions during the Kargil conflict had far-reaching strategic outcomes in so far as the sustained air operations led to the neutralization of key enemy positions, enabling the Indian Army to march ahead and recapture the Indian territories occupied by the Pakistani intruders. The operations also showcased close coordination between the IAF and Indian Army (IA) exhibiting the efficacy of joint operations.

This synergy was efficaciously crucial in addressing the difficulties of terrain and recapturing the well-fortified enemy positions. Besides this, the IAF's air operations also highlighted the need for advanced technology and tactical innovations in high-altitude warfare. The successful use of LGBs and precision bombings went a long way in setting a new benchmark for future air operations⁹.

In fact, the IAF's awe-inspiring presence coupled with efficacious missions potentially left a demoralizing effect on the enemy psyche on one hand and boosted the morale of the Indian forces on the other. This psychological impact was a critical factor in the eventual withdrawal of the intruders within reasonably shorter timeframes.

Post-Kargil Developments

The Kargil conflict underscored several key lessons for the IAF and India's defence establishment. The most significant among the developments that took place post Kargil operations, was an undeniable need for modernization of IAF aircraft Fleet. The limitations faced due to inherent serviceability related constraints in the existing aircraft fleet led to a renewed focus on modernizing the IAF's inventory, which included the induction of more advanced fighters and Precision-Guided Munitions (PGMs).

Apart from this, the importance of real-time intelligence and surveillance was highlighted, leading to enhanced investments in satellite reconnaissance and advanced UAVs. The realisation of usefulness of joint operations paved the way for the development of integrated warfare doctrines, ensuring better coordination between the Army, Navy and Air Force.

The conflict also led to the realisation of a need for bringing about advancements in the operational infrastructure and logistical capabilities, particularly in the high-altitude regions and the airbases located therein. The Kargil Review Committee set up by the Government of India on July 29, 1999, highlighted various aspects crucial to the need for joint operations¹⁰.

Major Lessons of Operation Safed Sagar for IAF's Future Capability Build Up

The Kargil conflict in general and IAF's Operation Vijay in particular, imparted various tactical lessons for the IAF. The operation was a critical engagement certainly long time after 1971 war and underscored the undisputed strategic significance of air superiority and tactical importance of air power in modern warfare, especially while operating in high-altitude and tricky inhospitable terrains. Some of the major tactical lessons learnt by the IAF from this operation are summarised as under: -

- (a) Operation Vijay brought home the significance of precision bombing. The Mirage-2000 aircraft equipped with LGBs successfully sighted and accurately devastated the enemy hideouts. The operation accentuated the importance of cutting-edge PGMs for the IAF, to potentially avoid the collateral damage while successfully destroying the strategic targets on the adversary's side.
- (b) The air operations at high altitudes of 10,000-18,000 feet, posed thitherto not experienced tests for IAF which included the thin air at high altitudes which potentially affected the aircraft performance consequent upon the dipping aeroengine performance and ultimately impacting the tactical lift. The operation underlined the need for the flying machines and aircrew to be specifically trained and equipped for high-altitude operations besides the importance of helicopters with capability of operating effectively in logistics and casevac operations amidst such challenging environments.
- (c) Operation Vijay validated an inevitable need for close synergy between IAF and IA. The IAF's capability of providing required Close Air Support (CAS) to the Indian army was instrumental in obtaining control of Tiger Hill and Tololing. This also accentuated the need for sustaining effective battlefield communication and formulating canons of joint operations to achieve synergised air and ground operations.
- (d) The engagement also underscored the strategic need for Electronic Warfare (EW) and Electronic Surveillance capabilities. The IAF's expertise in collecting real-time intelligence through aerial reconnaissance accurately identified the enemy coordinates and accordingly placed higher premium on augmenting the EW capabilities duly utilising the advanced surveillance technologies, UAVs besides satellite recce.
- (e) The timely intel about MANPADS used by the enemy helped the IAF aircraft to pre-empt the threats from ground fire, ofcourse we still sadly lost our aircraft and crew. Post operations, the IAF embarked upon deliberatin€g upon the strategies to elude and nullify such

threats by taking recourse to better ECMs and self-protection suits on aircraft. The conflict also put emphasis upon a robust Suppression of Enemy Air Defence (SEAD) capability.

(f) The operations also stressed upon the need for augmenting the night operation capabilities of IAF mainly in mountainous terrains. The conflict underscored the importance of equipping the aircraft with advanced night vision devices and targeting systems to facilitate effective operations despite poor visibility.

(g) The high-altitudes and rocky topography of Kargil demanded effective logistics supply chain management especially with regard to conveying the troops, equipment and supplies amidst air superiority thereby supporting and sustaining the ground operations by the Army.

(h) The fastest ever deployment of IAF war machines in the Northern sector within the shortest timeframes was a definite morale booster for the Indian army besides posing an effective deterrent to the enemy. The swiftness and flexibility of IAF emphasised the indispensability of air power as a potent constituent of modern warfare.

(i) The restrictions of inadequate aircraft availability due vintage fleet unambiguously accentuated an inevitable need for subsequent fleet modernisation and upgrade. Post-Kargil, there was a renewed stress upon the efforts towards fleet upgradation utilising better platforms, incorporating advanced avionics, weapon systems and EW suites.

Summing Up

Undoubtedly, the operation Safed Sagar brought home the shortcomings of tactical applications of air power in high-altitude war. The lessons learnt were contributory to shaping the modernisation and strategic planning of IAF. The air operations underscored the significance of precision bombing, high-altitude preparedness, synergy between the air & ground operations, EW, vulnerability against SAM threats, night ops, lean and efficacious logistics supply chain, effect of psychological war and an inevitable need for fleet upgrade.

The IAF's role in the Kargil operations was pivotal in achieving the strategic and tactical objectives of Operation Vijay. Through a blend of Precision Ground Attack Strikes, CAS and operational logistics, the IAF significantly underwrote the success of Indian armed forces in successfully evicting the intruders from the ridges. The lessons learnt and the subsequent fleet rejuvenation efforts have gone long way in helping the fortification of India's defence capabilities.

The Kargil conflict remains a testament to the effective use of air power in achieving military objectives and safeguarding the national security.

The Kargil Review Committee (KRC) recommendations have been instrumental in enhancing the effectiveness of the defence infrastructure and support substructures. The KRC takeaways were tested and accepted by the government to a large extent. Most importantly, the Kargil conflict drove home the significance of the jointness and synergy of operations among the Indian armed forces.

In this regard, the most significant recommendation of the KRC was the establishment of the Chief of Defence Staff (CDS) which found an on-ground manifestation with the appointment of the first CDS on January 1, 2020. This is further getting emboldened now, through cross posting of the officers of the three Services amongst the sister services which has already started taking shape and from here upon, we are moving to conceptualisation and formulation of the theatre commands of the day.

Notes:

¹ Rifat Fareed, "20 years of Kargil war: India, Pakistan remain tense over Kashmir", Al Jazeera, July 26, 2019, <https://www.aljazeera.com/news/2019/7/26/20-years-of-kargil-war-india-pakistan-remain-tense-over-kashmir>, Accessed on July 22, 2024.

² "Ops Safed Sagar, The summer of 1999", IAF's official website, <https://indianairforce.nic.in/ops-1962/>, Accessed on July 22, 2024.

³ Prof Prodyut Das, "The Aerodynamics of the MiG 21s Accidents", Barat Rakshak, November 30, 1999, <https://www.bharat-rakshak.com/iaf/today/flightsafety/mig-prodyut/>, Accessed on July 22, 2024.

⁴ Philip Camp, "The Mirage 2000 in Kargil", History Kargil War, Bharat Rakshak, October 15, 2009, <https://www.bharat-rakshak.com/iaf/history/kargil/mirage2000-operations/>, Accessed on July 23, 2024.

⁵ "Operation Safed Sagar", Gallantry awards, Government of India website, https://www.gallantryawards.gov.in/assets/uploads/home_banner/TheOperationSafedSagar-2023-07-07.pdf, Accessed on July 22, 2024.

⁶ Ibid.

⁷ Air Mshl R Nambiar to Nitin Gokhale, "Attack On Muntho Dhalo Changed The Theatre Of War In Kargil", YouTube, <https://www.youtube.com/watch?v=y8PX8X0o-kU>, Accessed on July 22, 2024.

⁸ Ibid.

⁹ A Subramanian, "Kargil Revisited: Air Operations in a High Altitude Conflict", Centre for Land Warfare Studies (CLAWS), Summer 2008, https://archive.claws.in/images/journals_doc/464654525_ASubramanian.pdf, Accessed on July 22, 2024.

¹⁰ "Kargil Review Committee Report", Parliament Digital Library, https://eparlib.nic.in/bitstream/123456789/63945/1/15_Defence_2.pdf, Accessed on July 23, 2024.