



IAF C-130 J Aircraft Achieves Milestone Night Landing at Kargil Airstrip



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The Indian Air Force C-130J aircraft made a historic night landing at the Kargil airstrip with Garud commandos on board, marking a major milestone in the military aviation. The mission used cutting-edge terrain masking techniques to demonstrate skills in difficult terrain.¹ This accomplishment demonstrates the Indian Air Force's C-130J aircraft's successful night landing at the challenging airstrip as the first ever night landing by a fixed-wing aircraft at Kargil. It demonstrates the IAF's readiness and experience and represents a major improvement in operational effectiveness in difficult terrains. The IAF's dedication to perfecting complex manoeuvres is demonstrated by the real-time employment of skill, teamwork, technology and experience in the years of consistent man-machine combination.

Strategic Importance of Kargil Airfield and Challenges of Air Operations

Kargil, the second largest town in Ladakh, is located approximately 200 kilometres away from Srinagar, Leh, Padum Zaskar, and Skardo Baltistan. Kargil has always been a significant town assuming the strategic importance of being the most critical link between Ladakh and the rest of mainland India.² The 434-kilometer Srinagar-Leh Highway, also known as National Highway 1A, is the primary land access to Ladakh. The road passes close to the Line of Control (LoC) in the Kargil district, and crosses through the critical Zoji-La Pass, the gateway to Ladakh and a chokepoint near the town of Drass.³ The entire logistical support to Indian Army (IA) units deployed at Siachen Glacier is through this single access road. The Zoji-la pass, till recently, used to remain closed for around six months due to heavy snow, and 'winter advance stocking' was the only way to ensure the survival of troops deployed at icy heights of Siachen. The IAF, to ensure

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uninterrupted air maintenance support in these areas, has been gradually improving the infrastructure at forward air bases and Advance Landing Grounds (ALG) in the area such as Thoise, Fukche, Nyoma, and Daulat Beg Oldie (DBO), with an eye toward both China and Pakistan.

The Airports Authority of India (AAI) had been managing the Kargil airfield, since the time the Jammu and Kashmir government had activated it for civilian aircraft operations in 1996.⁴ However, at the commencement of military operations during the Kargil conflict in 1999, the control was shifted to the IAF. Kargil airfield while being the closest to LoC, had to be used sparingly, that too mostly for helicopter operations. During the Kargil War, AN-32 fixed-wing transport aircraft operated from the airfield, albeit in daytime only. Since then AN-32s have been operating regularly from there. In the first week of December 2013, the IAF started an air courier service from Kargil to Jammu to enable the transportation of civilian citizens due to road closures in winter.⁵ This service has now been resumed in January 2024. In 2011, IAF announced plans to extend the 6,000-foot runway in Kargil to facilitate the operation of all major transport aircraft, including the C-130J, C-17 and the IL-76.⁶ In 2014, the Government of India (GoI) extended the operational control of Kargil airfield to the IAF for another 20 years for upgradation of infrastructure, including runway extension to 9000 feet.⁷

Even though the planned runway extension has not yet taken place, since 2020, the C-130J Super Hercules aircraft have commenced flying day sorties to Kargil to move military personnel and supplies. There have always been severe limitations of basing aircraft in a location like Kargil airstrip, which is within the artillery fire ranges of the Pakistan Army. There have been multiple challenges faced by the IAF for conducting fixed-wing aircraft air operations from Kargil airfield that range from operational to geographical and availability of suitable aircraft in addition to the many factors of support and protection. Some of the critical challenges were:

- (a) Situated at 9604 feet AMSL in the heart of the rugged Himalayas, the Kargil airstrip presents unique difficulties for pilots. Due to the high altitude, narrow valleys with high cliffs, erratic weather patterns, and strong winds, pilots need to possess extraordinary skill and proficiency when approaching the airfield and also while landing.
- (b) The reduced aircraft performance at such high altitude makes the task of a pilot highly challenging when landing the aircraft safely. This challenge gets compounded for landing at Kargil airfield due to the shorter runway length of just about 6000 feet as against the standard length of 9000 feet. Srinagar airfield which is at about half the altitude of 5600 feet has almost double the runway length of 12000 feet. The challenge of landing at Kargil can well be compared.

(c) The close proximity to LoC with Pakistan of just about 12 km, restricts the approach for landing to be unidirectional. The short runway length, coupled with the severe limitation of a unidirectional approach and proximity to LoC, poses a unique challenge of compulsive landing once committed on approach.⁸ The limited reserve of thrust at these altitudes adds another challenge in safely executing a ‘Go-around’ or overshoot action.

(d) All these challenges of daytime operation increase manifold in their degree of difficulty during air operations at night and in low visibility conditions, where visual cues for approach and landing are minimal.

In 1999, shortly after the signing of the Lahore Declaration, India and Pakistan fought the Kargil War. Under the code name Operation Badr, Pakistani forces, masquerading as infiltrators from Kashmir, broke into Indian territory along the LoC and occupied posts that the IA had abandoned for the winter. The objectives were to sever the connection between Kashmir and Ladakh, isolate Indian Army forces stationed on the Siachen Glacier, and compel India to engage in peace talks regarding the Kashmir dispute.⁹ By mid-May, IA had moved in a large number of forces to evict infiltrators from the dominating heights of Kargil-Drass-Batalik sector by initiating Op Vijay (1999). IA suffered heavy casualties as the enemy had occupied strong positions and IA forces had to attack uphill under heavy fire from the top. Even though the Air Force offensive operation, Op Safed Sagar, started on May 26, 1999, the IAF had already started a massive airlift of troops, stores, and ammunition. The Kargil war officially ended on July 26, 1999, with the IAF and IA completely evicting the Pakistani infiltrators and IA regaining control of their original positions at LoC. However a large number of lessons emerged that were highlighted in the Kargil Review Committee that submitted its report on January 07, 2000.¹⁰ Among the many important lessons, the two major takeaways for the IAF highlighted the urgent need for a strategic medium airlift capable aircraft with day and night operational capability in the Himalayan region and secondly of development of Kargil airfield as full-fledged fixed-wing aircraft operation airbase with the capability to handle day and night heavy air maintenance load.

C-130 Capabilities: A Game Changer for IAF

The IAF’s capability enhanced manifold with the induction of strategic airlift aircraft like C-130J Hercules and C-17 in February 2011 and September 2013 respectively.¹¹ Since their induction over a decade ago, both C-17 and C-130 have proved their strategic lift capability not only in India but also during international missions, including operational joint training exercises, Humanitarian Assistance and Disaster Relief (HADR) missions, Vaccine Diplomacy missions during Covid pandemic as well as evacuation operations such as airlift of stranded Indians in Ukraine or the Silkyara tunnel evacuation in Uttarakhand. C-130J is an advanced

two-pilot flight station Short Take Off and Landing (STOL) capable aircraft with fully integrated digital avionics, an all-weather day-night capability with Night Vision Goggles (NVGs) and infrared thermal imagery, colour multifunctional liquid crystal, Head-Up Displays (HUD), incorporating cutting-edge navigation with dual inertial navigation system and GPS that enhance its unique capability of operating from all types of terrain. The aircraft is designed to operate on rugged and unprepared surfaces. Additionally, the aircraft has a digital moving map display, low-power colour radar, and fully integrated defensive systems. The most recent night evacuation of Indians from an unprepared airfield in Sudan, with no landing or crash facilities, speaks volumes of the aircraft's capabilities and highlights the professionalism of the IAF pilots.

The Uniqueness of C-130 Night Landing at Kargil Runway

An important milestone in the IAF's operational capabilities was reached when its C-130J aircraft made its first successful night landing at the Kargil airstrip. This successful night landing at such a strategic location not only underscores the heightened capabilities of the IAF but also serves as a testament to its preparedness in challenging terrains. This historic achievement is unique in many ways. This was the first time a night landing had been attempted by a fixed-wing aircraft at the Kargil airstrip that is located so close to LoC, although transport planes had been earlier landing there during the day. The approach to the airfield is unidirectional and it is surrounded by steep hills of 14000 to 15000 feet, which give very limited space for manoeuvring, thus making a night landing one of the most challenging tasks. The reduced engine efficiency coupled with the severe limitation of 'No Go Around', adds another dimension to the challenge. The IAF selected C-130J for this most challenging task due to its capabilities in terms of aircraft performance with four powerful engines suited for the task, most modern onboard avionics and systems, night operation capabilities with the use of NVGs and infrared thermal imagery for landing. The most important aspect is that Combat-ready Garud Special Forces personnel being airlifted to such a forward location sends a strong message to the enemy about the IAF's ability to strategically airlift forces through difficult terrain at all hours of the day. The IAF, by such an audacious attempt, has proved that its pilots are always pushing the limits of their operational capabilities, from manoeuvring through the hazardous terrain of Uttarakhand to mastering the intricacies of nighttime landings in Kargil.

The Way Forward

The IAF, since independence, has been facing constant challenges of defending the skies from two hostile nuclear-armed neighbours. True to its motto "Touch the sky with glory," the IAF has always brought glory to the nation, whether in war, precision strikes, multinational joint training exercises or HADR missions. Even with the depleting strength of its fighter squadrons, the IAF has kept pace with the emerging technologies and

changing threat scenarios and its quest for excellence has never slowed down. The recent night landing by C-130 is truly a game changer in the strategic capability of the IAF and would remain a historical milestone in the quest for excellence of the IAF. The importance of this special night landing operation of C-130 at Kargil Airfield goes beyond its technical details and execution. It conveys a very clear message of the rising level of the IAF capability to the world at large and especially to China and Pakistan. Deliberately showcasing these capabilities in public sends a strong message about India's resolve and ability to protect its territorial integrity. Kargil was a surprise in 1999, with the changing geo-political construct and increasing threats, the IAF must now step up its efforts in developing robust operational infrastructure, including runway extension, not only at Kargil airfield but also at DBO, Nyoma and Thoise as alternative airfields for day-night operations'

(Disclaimer: The views and opinions expressed in this article are those of the author and do not necessarily reflect the position of the Centre for Air Power Studies [CAPS])

NOTES:

¹ "Indian Air Force's C-130 J aircraft achieves milestone night landing at Kargil airstrip," The Economic Times, January 07, 2024, <https://economictimes.indiatimes.com/news/defence/indian-air-forces-c-130-j-aircraft-achieves-milestone-night-landing-at-kargil-airstrip/articleshow/106608806.cms?from=mdr>. Accessed on January 07, 2024

² Ladakh Autonomous Hill Development Council, "Kargil-Ladakh", <https://kargil.nic.in/lahdc/>. Accessed on January 07, 2024.

³ Acosta, Marcus P., "High altitude warfare: the Kargil Conflict and the future," Calhoun: The NPS Institutional Archive, <https://core.ac.uk/reader/36694780>. Accessed on January 08, 2024.

⁴ "Kargil to be a major Indian Air Force base," ZeeNews media, October 03, 2011, https://zeenews.india.com/news/nation/kargil-to-be-a-major-indian-air-force-base_734785.html. Accessed on January 07, 2024.

⁵ "AN-32 Kargil courier service to resume operations from Jan 22," *The Week*, January 20, 2024, <https://www.theweek.in/wire-updates/national/2024/01/20/des66-ladakh-air-courier.html>. Accessed on January 22, 2024.

⁶ Ibid.

⁷ Parliamentary Digital Library, Lok Sabha unstarred question number 1527 dated July 21, 2014, <https://eparlib.nic.in/bitstream/123456789/705927/1/5660.pdf>. Accessed on January 10, 2024.

⁸ "Why Indian Air Force plane C-130J's night landing at Kargil airstrip is a big feat," *FirstPost*, January 08, 2024, <https://www.firstpost.com/explainers/why-indian-air-force-c-130js-night-landing-at-kargil-airstrip-is-a-big-feat-13588832.html>. Accessed on January 11, 2024.

⁹ Ministry of Defence, "THE KARGIL WAR: a war that defied all odds," FinalKargil_Mainwriteup-2023-07-25.pdf (gallantryawards.gov.in). Accessed on January 14, 2024.

¹⁰ Lt Gen Hazari, "Kargil Committee Report," Institute of Peace and Conflict studies, May 01, 2000, https://www.ipcs.org/comm_select.php?articleNo=350. Accessed on January 13, 2024.

¹¹ "C-17 Globemaster III Inducted into the IAF," PIB, September 02, 2013, <https://pib.gov.in/newsite/PrintRelease.aspx?relid=99048>. Accessed on January 14, 2024.