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**Khe Sanh:
A Success in the Use of Combined Airpower**

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Abstract

The siege of Khe Sanh lasted 78 days from 20 January 1968 to 8 April 1968. During that time, the Marines were cut off from all ground resupply making them totally reliant on airpower for all their needs. Khe Sanh is a study in the use of total combined airpower. There was a single manager for all fixed-wing air operations. Kinetic and non-kinetic aircraft supported each other in an effort deliver supplies to the besieged Marines. A combined team of United States Air Force and Marine assets provided aerial resupply throughout the siege allowing the Marines to survive. In the end, over 22,000 fighter-bomber sorties dropped almost 40,000 tons of ordinance supporting 1,061 airlift sorties delivery over 12,400 tons of supplies allowing the Marines to hold Khe Sanh in face of an enemy five times their numbers.

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The critics of airpower throughout the ages always focus on the failures of airpower as compared to the other two main components of warfare. These critics are quick to point out that airpower can neither seize ground nor hold it. What the critics miss is the fact that airpower is rarely a decisive tool in and of itself, but more a specialized tool that without it winning wars is still possible, but has the propensity to be far bloodier and longer. Airpower proved itself as a specialized tool in a small place called Vietnam. In the siege at Khe Sanh in 1968, 6,000 Marines were cut-off from all ground resupply and had to depend on air alone for all of their needs. What separated the use of United States airpower at Khe Sanh from the French at Dien Bien Phu more than a decade earlier were a more robust airlift fleet and a better understanding of how to use airpower. The proper application of a single air commander, the integrated use of kinetic and non-kinetic force and the overwhelming ability of military airlift saved the Marines from certain loss.

Khe Sanh was a purposely-orchestrated event by General William C. Westmorland designed as bait to entice General Vo Nguyen Giap into a classic set-piece battle in an effort to destroy his army as well as be a capstone to Westmorland's career.¹ Khe Sahn was a small Marine outpost located in the Quang Tri province of Northern South Vietnam.² Khe Sanh sits on a small plateau ringed by high terrain. The average height of the terrain is 1,500 feet above Khe Sanh itself with some rising to 4,000 feet above the outpost.³ The high terrain surrounding Khe Sanh gives a commanding view over the outpost and was used by both the North Vietnamese and the Marines. The strategic importance of Khe Sanh rests in its location, only 16 Kilometers from Laos and 25 Kilometers from the Demilitarized Zone, providing the Americans with three valuable options.⁴ The first option was using Khe Sanh as an observation post to detect the movement of large North Vietnamese Army (NVA) forces moving south. The second option

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was as a deterrent to the movement of NVA forces, and the third option was as a jumping off point for any offensive operations into Laos.⁵

Khe Sanh's airfield was of vital strategic importance for all three options available to the Americans. The airfield would be needed to launch and recover reconnaissance aircraft to monitor the Ho Chi Min Trail as well as be used to stockpile or resupply forces for any offensive operations into Laos.⁶ It was vital to maintain the runway condition throughout the siege. Everyone understood that without the runway, the entire re-supply effort could fail. There would be several dedicated airlift sorties to maintain and upgrade the runway during the siege.

The siege began on 20 January 1968 when the Marines found themselves cut off from all ground supply when the NVA cut Route 9, the main supply road to Khe Sanh.⁷ With no ground transportation available, the decision was made to supply the base solely by air.⁸ The 6,000 Marines would be facing an NVA force almost 5 times their size. The Marines had stockpiled enough food, ammunition and supplies for a 30-day period.⁹ Because of the siege, the force at Khe Sanh had grown from one battalion to five battalions, leaving a severe shortage of bunkers on the base.¹⁰ The Marines were not allowed to abandon Khe Sanh because General William C. Westmorland would not be allowed to lose the fight for Khe Sanh. Gen Westmorland received intense pressure from President Johnson to win the fight at Khe Sanh. President Johnson viewed Khe Sanh as another Dien Bien Phu and believed that a loss at Khe Sanh would be a loss in Vietnam, and that was not going to happen.¹¹ As a result, the Marines had to reinforce the base with men and material. The addition of men required a build-up of bunkers and defensive positions.

The siege of Khe Sanh was important first because of the innovative use of a single air manager for all fixed-wing air operations: observation, tactical, and airlift. This tenant of

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centralized control is at the heart of all things held dear to the United States Air Force (USAF) based on the belief that it made for a more efficient use of airpower. Khe Sanh shows the first steps taken toward this centralization. Westmorland assigned his deputy General William W. Momyer as a “single manager for tactical combat aviation throughout South Vietnam”.¹² With no surprise, the Marines and Navy had a problem with this arrangement. The Marines had always held the belief that Marines best employed Marine air. The loss of this direct control over Marine air, Marines believed, would lead to the destruction of the integrity of the Marine air-ground team.¹³ The USAF countered this with the point that having a single air commander was a more efficient use of airpower because all air assets would support the same objective and not a piecemeal approach applied to the closest objective. It was not until 10 March that Westmoreland succeeded in appointing a single air commander, almost two months into the siege. The personal relationships between the generals of both services and the gentleman’s agreements forged between them relieved the Marine’s apprehension of the loss of their indigenous.¹⁴

While the concept of a single air commander was not official until March, the integrated use of airpower was prevalent throughout the entire siege. The integrated use of helicopters, fighter-bombers, reconnaissance, airborne command and control, and forward air controllers existed from the beginning. The Marines had and kept control of their helicopters because that was the only way to supply the outlying fire bases in the surrounding hills.¹⁵ This arrangement worked well by giving the Marines control over a portion of their own forces allowing them to retain the Marine air-ground team while at the same time providing for the efficient use of fixed-wing aircraft.

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The airpower used complemented each other. The reconnaissance aircraft would locate the anti-aircraft batteries and relay the information to the airborne command and control who in turn would give that information to the forward air controllers. The forward air controllers would vector in the fighter-bombers to destroy or suppress the anti-aircraft artillery (AAA).¹⁶ The fighter-bombers from all three services made over 22,000 attacks dropping almost 40,000 tons of ordinance in support of Khe Sanh.¹⁷ This suppression of AAA allowed the unarmed airlift aircraft to approach Khe Sanh with less danger. The suppression did not eliminate the danger of AAA because most aircraft return to their bases with small arms damage received during the ingress or egress from Khe Sanh. Regardless, without the coordinated efforts of all the kinetic aircraft, the airlift aircraft would have faced a much greater danger. Enemy fire was not the only threat faced by the aircrews; weather played a large factor in all Khe Sanh operations.

Weather was the biggest factor in limiting the effectiveness of AAA suppression. Because of the low cloud ceilings in the valley around Khe Sanh, the fighter aircraft could not always descend below the weather to provide an effective escort for the airlift aircraft.¹⁸ Inbound to Khe Sanh, each airlift aircraft would contact the Airborne Command and Control (ABCCC) aircraft for escort information.¹⁹ If the escort was available, everything went according to plan. If escorts were not available, it was up to the Aircraft Commander of the transport and the USAF ground team as whether to continue or not. Most times, the airlift aircraft proceeded to Khe Sanh regardless of escort aircraft; the mission was that important.²⁰

Because Khe Sanh was under siege, the most vital of all the aircraft participating was the airlift aircraft. The Marines would not have been able to survive without the supplies flown into Khe Sanh. At the beginning of the siege, the C-123s, C-7s, and C-130s were able to land on the

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airstrip to unload their cargo. The biggest impediment to this was the substandard condition of the airfield at the start of operations. Due to the monsoon rains Vietnam suffers, the airfield became waterlogged, affecting the substrate beneath the runway.²¹ The C-130's landing weight of 60 tons compressed the airfield causing the substrate to breakdown rapidly leaving a half mile of unusable runway at Khe Sanh.²² The runway was only 3,900 feet long and 60 feet wide with no taxiways and only a loading/unloading ramp halfway down the field.²³ With 2,500 feet of the runway damaged, only C-123s could use the runway. To remedy the situation, new asphalt and AM-2 matting needed to be brought in to repair the runway. The C-130s airdropped asphalt and used the Low Altitude Parachute Extraction System (LAPES) to deliver the AM-2 matting. The Seabees set to work to repair the airfield to make it suitable for C-130s again.²⁴

During LAPES, the aircraft flies approximately 5 feet off the ground and an extraction parachute pulls the load out of the back of the aircraft. The load drops the five feet and skids to a stop on the runway. The AM-2 matting was not the only use for the LAPES system. The Marines needed construction materials to increase the number and strength of the bunkers significantly. Because of the on-going supply drops, airdropping the construction equipment was out of the question and there was insufficient material handling equipment to offload the aircraft if they did land. Once again, LAPES was the solution to the problem.²⁵ A total of four LAPES missions were flown into Khe Sanh delivering the much needed construction equipment.²⁶

As the siege continued, the AAA, mortar, and artillery fire became heavier, and the larger C-130 aircraft were restricted from landing. This was due to a combination of the aircraft's size and cost. The size made it a great target for the North Vietnamese and the USAF was unwilling to lose a new two-and-a-half million-dollar aircraft.^{27,28} "On 12 February General William W. Momyer, Commander 7th Air Force, directed that due to the increasingly accurate

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barrages of motor, rockets and small arms fire no further C-130 landings would be made at Khe Sanh.”²⁹ Airdrop and LAPES became the only method available for the C-130s.

The airdrop option became the preferred method for delivering cargo for the C-130s with the airfield shut down to them. Of the two methods of airdrop available to the C-130s, heavy equipment (HE) and container delivery system (CDS), the CDS was the better choice. Heavy equipment drops required a larger drop zone (DZ) than the CDS drops in addition to forklifts and other equipment to recover the loads. The CDS drops are recoverable by hand and used for non-breakable items like bullets, rations, and fuel.³⁰ These items are recovered from the bundle and hand-loaded into the back of a vehicle. The ease of recovery and smaller DZ requirements led to the exclusive use of CDS during the siege. Located outside the perimeter of the base, the smaller DZ was easier to secure each day prior to drops and easier to secure the final recovery before dark.³¹ Aircraft completed 726 CDS drops with just three bundles landing outside the DZ and determined to be unrecoverable.³² This is an astounding 99.6% accuracy rate. Weather hampered airdrop efforts because there were no set procedures to drop the cargo if aircrews could not see the ground due to clouds. The 834th Air Division, located in Vietnam, had planning responsibility for the missions in support of Khe Sanh and developed new procedures to deliver airdrop loads when crews could not see the ground. These new procedures relied on the radar system at Khe Sanh to direct the aircraft to a point directly over the approach end of the runway at 500 feet. The navigator would set the Doppler system on the aircraft and start a stopwatch. Taking groundspeed data from the Doppler, the navigator could time the distance to the release point. These procedures allowed for 123 successful airdrops when the crews could not see the ground.³³

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There were problems with the LAPES system and its implementation. While Khe Sanh was the first combat use of the system, it was not without its problems. A limitation in the number of specialized components required for the system coupled with some accidents caused the USAF to develop a new system. The special squibs and platforms needed for the LAPES were few in number in theater and the platforms that did make it on the ground needed to be recovered by aircraft causing an extended ground-time making them more vulnerable to enemy fire and taking up valuable space that could be used for wounded men. More important than the lack of specialized equipment was the lack of precision and control of the platform after release. One aircraft impacted the ground during the extraction tearing off the ramp killing one and wounding another. Another aircraft released the platform that did not stop until it exited the end of the runway slamming into a bunker killing the Marine within.³⁴ These problems caused the USAF to develop a new method of load extraction that was more controllable.

The Ground Proximity Extraction System (GPES) was the solution to the problems encountered with LAPES. GPES required each C-130 to fly approximately 5 feet off the ground above the runway and the load would either exit the aircraft by a hook and arresting cable. This limited the exposure time each aircraft faced while delivering their supplies. The GPES was preferable to LAPES because it did not rely on an abundance of specialized equipment for the pallets to work, just an arresting cable system installed on Khe Sanh's runway. The other reason GPES was preferable was the control of the pallets after extraction. LAPES pallets relied on friction to slow and stop them allowing them to slide down the runway tearing up the asphalt and kitting objects, GPES stopped at the end of the arresting cable allowing for a more controlled release and a fast recovery because the pallet was in the same spot drop after drop. Throughout the siege, the smaller C-123s and C-7s landed on the airstrip to deliver their supplies and

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evacuate the wounded. All told, 12,430 tons of supplies were delivered and 4,250 passengers transported by USAF aircraft in 1061 sorties. In addition to these numbers, Marine helicopters transported 14,562 passengers and 4,661 tons of cargo keeping the overlooking hilltops in Marine's hands.³⁵

All told, the Marines were victorious at Khe Sanh because of the combined efforts of the USAF, Marine Corps, and Navy. By looking at the management of airpower at Khe Sanh, the services can identify and correct errors made and formalized the successes they experienced. While the single air commander idea did not happen until the last month of the siege, that idea is now codified and incorporated into doctrine as the Joint Forces Air Component Commander. The vast amounts of supplies flown and airdropped into Khe Sanh serve as a reminder of the immense capabilities that airlift can bring to the right place and the right time and showcase what the military can accomplish when all the services act in support of a single objective without infighting and service parochialism. In the aftermath of Khe Sahn, the USAF developed a new capability for the C-130, the Adverse Weather Aerial Delivery System (AWADS). The AWADS system uses powerful ground-mapping radar allowing the navigator to position the aircraft over the release point, with no external help such as the ground radar used at Khe Sanh, giving the C-130 a true all-weather airdrop capability.³⁶ The total integration of kinetic and non-kinetic airpower used serves as a model for all future limited wars in which the United States will find itself.

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