

CHAPTER - VIII

ROLE OF THE INDIAN AIR FORCE

The role of the Indian Air Force in the conflict is significant in more ways than one. On the one hand, the paucity of road communications on the Indian side of the border was such that the deployment, maintenance and even the very survival of ground forces was dependent on air supply. This was specially true of Ladakh, as right upto August 1962, Leh was still not connected by a road(1). In NEFA, the build up of forces in Thagla Ridge area or deployment of Assam Rifles posts in OP ONKAR & LEGHORN(2) was conditional on logistic support by the transport fleet of the air force and Kalinga Airways. The understanding of the conflict is therefore possible only with thorough appreciation of the role of air power. Another aspect that comes up in any discussion is the non-use of close air support, or the offensive air weapon, by both sides. Though mainly in the realm of speculation, what could have happened had air power been used in support of the ground troops throws up interesting possibilities. In fact this is a famous 'If' of recent Indian military history and well deserves some discussion.

AIR TRANSPORT SITUATION

The Transport Fleet

The mainstay of the air force transport fleet in 1962 were Dakotas and Packet C-119 aircraft. AN-12s were inducted in the Indian Air Force only in 1961 and were insignificant in numbers. The IAF also had a squadron of piston-engined Ilushin-14 planes of Russian origin. Dakotas and Packets were also piston engined aircraft and had an operational height ceiling of around 4500 metres (about 15000 feet). This was a grave handicap in operating in the Himalyas, as even some of the passes are over 5500 metres high. The flying thus, had perforce, to be confined to the valleys, and the aircraft had to avoid the high peaks, specially in foggy weather. Since these aircraft were not pressurized, the pilots carried oxygen cylinders. Even cold presented a problem. The pilots had to fly wearing bulky clothing. As the aircraft were unable to fly over the peaks, the routes had to be carefully selected and scrupulously followed. This meant that for a long flight from Srinagar to Leh and back the aircraft followed the same route, leading to monotony and extra flying fatigue(3)

There was practically a total absence of any kind of ground support facilities for safe landing. There were no radars, and the only radio link

available at Leh had a range of barely 16 km (10 miles). All the factors combined made for barely one sortie per day per aircraft. Weather presented a formidable problem, as the fickleness of mountain weather made any kind of long range forecast difficult. Often Srinagar, the take off point, would be basking in the sun, but Zoji La Pass would be badly clouded. In this case the aircraft could not take off, and the waiting Army Jawans would wonder if the IAF was serious about flying.

The approach to many a landing strip or dropping zone was difficult and narrow. The airstrips were mostly kutcha surfaces, and suitable sites were difficult to find. In the Ladakh sector, landing strips fit for Dakotas and Packets were available at Leh, Kargil, Chushul, Thoise and DBO(4). In NEFA area, these were at Walong, Along, and Tezu. DBO was at the height of about 5000 metres or 16000 ft. Technically neither the Dakotas nor the Packets were meant to either land or take off from airfields so high. The transport fleet of the Indian Air Force operated in the Himalayas in defiance of nature as well as designed technical capabilities of their machines. The fact that these operations were still carried out is a tribute to the skill and dedication to duty of the pilots and engineers of IAF and Kalinga transport fleets.

These air transport fleets in 1960s were primarily based on Dakotas (DC-3) which were old and derated. The IAF transport fleet received a shot in the arm when HAL, Bangalore, in collaboration with a US Company (Steward Davis) developed a Jet Pack for Packet C-119 aircraft(5). This involved fitting of a jet engine on the tail of the Packet aircraft to assist it with extra boost for take off, and proved a great boon in high altitude areas.

The first test flight of the modified Packet took place on 9 June 1961. By June 1962 it was ready for operational trials in Ladakh after a series of tests were completed. History was created when Sqn Ldr (later Air Marshal) CS Raje landed his Packet at the newly constructed air strip at Daulat Beg Oldi on 23 July 1962(6).

The IAF air transport fleet received a further boost when 44 Squadron was formed with turbo prop Antonov-12 aircraft of Russian origin in Chandigarh on 31 March 61(7). The difference can be seen when one compares the AN-12 with a Packet or Dakota. Instead of a 2-1/2 hour trip to Leh from Srinagar, an AN-12 could reach Leh in half of that time. And AN-12 had no need to fly along the valleys, as it was capable of

flying even with full load, at heights greater than the Himalayan range.

The IAF transport fleet in 1962 consisted of(8):

(a) Dakotas	-	95
(b) Packets	-	51
(c) AN-12	-	07
(d) IL-14	-	23
(e) Others	-	24
(f) Super Constellation	-	06

	Total	206

High Level Decisions and Co-ordination

The Sino-Indian dispute originated in clandestine occupation of Aksai Chin area by the Chinese. In the initial years, from 1959 to 1962, the attention was thus focussed primarily on Ladakh area. In the eastern segment of the Himalayan border (defined in McMahon Line) the forward areas continued to be manned by Assam Rifles till 1961. The air supply to these isolated posts was being carried out by the Kalinga Airways, a private airline owned by Mr. Biju Patnaik. The airways used Dakotas and its pilots were very experienced, and continued to perform their tasks right through the conflict.

As the 'Forward Policy' came into operation, a meeting was held in the Defence Minister's room on 26 May 1960, with both the COAS and CAS attending(9). The Defence Minister directed Army and Air Force to find suitable sites for additional air strips near posts and to carry out assessment of aerial supply in order to establish new posts. The Indian govt. was careful not to escalate the tensions and, on instructions from the Prime Minister issued on 20 October 1960, a restriction was put on flying near the border(10). The Air Force was not to fly recce or fighter sorties within a 24 km (15 mile) belt from the border. This was not applicable to transport aircraft, which could fly right upto the border. They were, of course, not to cross into Chinese territory on any account. These instructions were adhered to scrupulously. In December 1961 as the Army was establishing additional posts, there was an urgent request to waive this condition. The Defence Minister

agreed to give clearance to specific flights, but no blanket authorisation was given. 106 Squadron equipped with Canberra aircraft and fitted with cameras carried out these tasks. Initially the missions were primarily for mapping purposes. As the active operations started, these became recce missions to find out the deployment and strength of the Chinese. Most of these missions were in Aksai Chin, Tawang, Sela and Walong areas. During the period 13 October to 11 November 1962, the Canberras flew 22 photo recce missions, flying nearly 50 hours(11). Apart from these missions there were no strategic missions carried out that were controlled at the highest level. The issue of offensive air support, or the lack of it, has been discussed separately at the end of the chapter.

Transport air support was organised on theatre basis, with the Air HQ only controlling allotment of resources. In the West, No 1 Operational Group was in overall control, and was located at Palam, New Delhi. In addition, AOC J&K and the Tactical Air Centre attached with XV Corps at Srinagar also co-ordinated the efforts(12). The Dakotas and Il-14s were based at Srinagar and flew mainly to Leh. The Packets were based at Pathankot and Jammu, and flew mainly to Chushul. The AN-12 Sqn was based at Chandigarh and supplied Leh and Chushul. The Army HQ laid down priorities and most decisions were taken in joint conferences held periodically(13).

In the East, HQ Eastern Air Command co-ordinated the air supply effort. During the hectic period of operations the AOC, AVM Jaswant Singh, had based himself at Tezpur(14). The Packets were based at Tezpur while Dakotas operated from Guwahati. Some Packets were also based at Jorhat. The Otters were mainly used to supply the Walong brigade and Army posts in Siang, Subansari and Lohit Sectors. As noted earlier, Kalinga Airways continued to supply Assam Rifles posts. In addition, the IAF Dakotas had been carrying out supply drops to posts in Nagaland, where nearly two brigades of the Army were deployed in small penny packets to fight the Naga insurgents.

Often the requirements of Eastern and Western theatres clashed. In such cases the Army HQ laid down the priorities in consultation with the Air HQ.

TRANSPORT AIR SUPPORT IN LADAKH

As seen in earlier chapters, Ladakh had no road link right upto August 1962 and not only requirements of the Army but even the civilians were met by the air force. The major airfields or landing grounds in use

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in Ladakh were Leh, Chushul and Thoise. The DBO landing ground built with great effort was fit only for emergencies. South of Chushul, Fukche in Indus Valley also had an air strip. The airfield at Leh, due to restricted length of runway, could take only Dakotas and Packets. Chushul could take all kinds of aircraft including AN-12, but the surface of the runway made it frequently unserviceable(15). Even the airfield repair material had to be air lifted to Ladakh. The responsibility to provide transport air support to Ladakh was shared by 42 Sqn (Ilushin-14), 43 Sqn (Dakotas), 19 Sqn (Packets) and 44 Sqn (AN-12s). In addition, there were some Dakotas and Packets of 11 and 12 Sqn located at Srinagar & Jammu. 1 Wing, which was based at Srinagar, was in overall command. The Ilushin & Packet Sqn had full compliment of 14 operational aircraft, while the Dakota Sqn had 8 and 44 Sqn had 7 AN-12s(16).

In 1961, as the forward policy led to establishment of new posts in DEO and Changchenmo area, the load on the Air Force increased considerably. In September 1961, the Air Force intimated XI Corps that it planned to withdraw the Dakotas from Srinagar(17). Since Sultan Chushku had no suitable dropping zone for Packet aircraft, the Air Force pleaded inability to further continue supplying this post. This posed a problem, and ultimately Sultan Chushku had to be held with reduced strength and supplied by land from Murgo. This in a way exemplified the critical role of air supply.

The air supply and casualty evacuation received a boost when 107 Helicopter Unit (equipped with Russian made MI-4 helicopters) was moved to Leh on 13 May 1961(18). The MI-4 helicopter could carry 4-6 passengers and was capable of high altitude flying. After the Chinese surrounded Galwan post on 4 July 1962, it was exclusively maintained by MI-4 helicopters. A record of sorts was created when in October 1962, right under the nose of the Chinese, the 1/8 GR company was replaced at Galwan by a company of 5 Jat(19).

Despite all efforts, there was a shortfall in airlift, and the Army's plan of inducting five battalions in Ladakh by 1962 could not be fulfilled. The total airlift had to be divided into allotment for maintenance and induction of troops, maintenance stores for airfields and border roads(20). As a typical example, the 2500 tonnes airlift available between April-May 1961 were divided as under:

- | | | |
|-----|--------------------------|-------------|
| (a) | Troop induction | 500 tonnes |
| (b) | Improvement of airfields | 1500 tonnes |
| (c) | Road construction | 500 tonnes |

In June 1962 the issue came to a head as tensions mounted. While the Army required a total of 44000 tonnes to be lifted by the end 1962, the airlift capability was half of that i.e. 21,600 tonnes. Thus, despite all efforts, at the start of the 1962 conflict there were only four bn in Ladakh(21).

The highlight of transport operations in the West was the airlift of two troops (8 tanks) of ANX-13 tanks of 20 Lancers. On 21 October, as the news of use of tanks by Chinese in their attack on Sirijap post was received, one troop of ANX tanks was ordered to be moved to Chandigarh. On 22 October trials were carried out to load tanks in AN-12 aircraft, but it resulted in damage to the floor of one aircraft, and the trial was abandoned. In the meanwhile a second troop was also ordered to Chandigarh.

The problem was that the AN-12 ramp was too steep. The tank tracks slipped over the aluminum floor. The tank had to be loaded smoothly and without a jerk. The ingenuity of Army Engineers and Air Force technicians soon found a solution. A ramp to load the tank was quickly constructed. The aircraft floor was strengthened with wooden planks. Trials on 24 October were successful.

One problem still remained. The Air Force insisted that tank gun be dismantled to save weight, which was un-acceptable to Army. To solve the problem the pilots took off with reduced fuel, taking grave risk. Since the aircraft at Chushul had to keep its engines running, the unloading had to be done within 15 minutes. Even this was accomplished. On 25 October 1962, in early morning mist, six AN-12 rose majestically in the sky and delivered the tanks at Chushul without any mishap. Next day a second troop was airlifted to Chushul. Two batteries of 13 Field were similarly airlifted to Chushul. The contribution of this epic feat in defence of Chushul was indeed immense(22).

Lack of adequate transport capacity had been the main bottleneck in build up of Army strength in Ladakh in 1960 & 1961. However, as tensions mounted in 1962, the transport wing of the IAF made Herculean efforts to rise to the occasion. Packets, otherwise ill-equipped to fly at night in mountains, even

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carried out twilight drop at Tsogatsalu and Phobran on 23 and 24 October 1962(23).

The following two tables give an indication of the splendid effort of the IAF transport units:

FLYING HOURS

<u>Aug 1962</u>	<u>Sep 1962</u>	<u>Oct 1962</u>	<u>Nov 1962</u>
1289	1179	2557	3263

(This included AN-12s, Packets, Dakotas, IL-14s and MI-4 helicopters)(24)

LOADS CARRIED BY AN-12s

<u>July 1962</u>	<u>Aug 1962</u>	<u>Sep 1962</u>	<u>Oct 1962</u>	<u>Nov 1962</u>
574.2	460.4	366.7	1427.3	1965.7

(This data pertains to only 44 Sqn IAF based at Chandigarh)(25)

Partly the increase was due to the generally better weather conditions that obtained in J&K from October onwards. Yet there is no doubt that the Air Force, during the crucial months of October and November stretched its men and machines to the limit. A point can come up as to why this kind of effort could not be mounted 'prior' to October 1962(26). The answer to this is partly technical, and partly psychological. The emergency effort mounted by the Air Force in October-November 1962 was possible only by postponing crucial periodic overhaul and maintenance. This kind of effort could be sustained for a short period only. In addition, after this effort, for months together a large part of the transport fleet became unserviceable. In sustained supply operations this would have led to a breakdown. Secondly, it must be kept in mind that right till September 1962, the government and Army HQ still believed that no serious fighting with the Chinese was likely. It was but natural that this feeling permeated to the Air Force as well.

In October-November the transport fleet of the IAF delivered nearly 9,639 tonnes of supplies in Ladakh(27). The IAF could justifiably claim that it had a significant contribution to stabilization of ground situation in Ladakh.

AIR TRANSPORT ON THE EASTERN FRONT

In the east, the need for air supply was as critical as in the west. Soon after Independence, the

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Government of India started extending administration to the NEFA area bordering Tibet as well as Burma. At that time, except for NEFA, the rest of the area was under the jurisdiction of Assam Government. The main problem faced in those early years of independence was to bring the isolated tribes into the national mainstream. The manning of the borders as well as policing of the area was responsibility of Assam Rifles. It was a para-military force, officered by the Army, but under the operational control of Assam Govt. The State Government was also responsible for administering this force.

As early as December 1950, Mr. N.K. Rustomji, an IPS officer (who was later Adviser to the Governor of Assam) had proposed that in view of the changed situation (Chinese occupation of Tibet) an army brigade should be inducted in the area (28). He suggested development of Dibrugarh and Jorhat as air bases. He visualized that in a case of active operations across the northern border (with Tibet) air supply would be of critical importance. The development of road communications was likely to take a long time. Air supply was also necessary for supporting the screen of Assam Rifles posts, while the main force remained in the Brahmaputra Valley. Mr. Rustomji made a strong case for establishment of air bases, landing strips and dropping zones in the area even for peace time, as the areas often got cut off due to natural calamities. The inaccessibility of the area also meant lack of intelligence. Thus aerial access was the prime need and he made a forceful plea to create the necessary infrastructure. It is impossible to know (from the available records) what impact if any, this well thought out assessment had on the development and deployment of air power in the east.

The development of airfields and air bases in the east received a fillip as a result of revolt by the Naga tribesmen. The Army was deployed to contain the insurgency. As the posts were isolated and without road communications, air supply became the sole means of their maintenance. Chabua, Jorhat and Guwahati were developed as transport air bases in 1960-61.

In response to rising tension on Indo-Tibetan border, 20 Wing IAF was raised at Bagdogra to look after Sikkim, and 11 Wing at Tezpur. These became fully operational only in September/October 1962, just prior to and during the Sino-Indian conflict (29). Essentially the burden of transport air support fell on 48 Sqn (Packets) based at Guwahati and 59 Sqn (Otters) and 49 Sqn (Dakotas) based near Jorhat. In

In addition, two Dakotas from 11 Sqn based in Barrackpur were also stationed at Guwahati during the conflict. On an average the Dakota Sqns had 7/8 aircraft, while the Otter Sqn had a strength of 12. Only Packets of 48 Sqn had full strength of 16 (including 2 reserves). The serviceability varied from a low of 30% to a high of 70%(30). Chabua was the main base for air supply to eastern parts of NEFA, and Guwahati for the Kameng area.

As a sequel to the Chinese incursions in the Thagla Ridge area, tensions came to a boil along the McMahon Line in Kameng Frontier division of NEFA. To assess the air supply situation and help speed up Army build up in Nanka Chu valley, a meeting was held in the Defence Minister's room at New Delhi on 6 September 1962(31). This was attended by both the Air and the Army Chiefs. At the meeting a decision was taken that air supply to forward posts of Assam Rifles would be immediately taken over by the Air Force. It was also decided that by March 1963, the supply operations by Kalinga Airways be completely phased out. This decision was taken apparently due to apprehensions that in case of active conflict a civil airways might not prove reliable. The Air Force Chief pleaded that the existing airfleet needed augmenting if this task was to be achieved. The Defence Minister agreed to purchase of two additional aircrafts (Caribous) for this purpose.

Even without the additional responsibility of supplying Assam Rifles, the daily requirement of the Army alone worked out to approximately 1000 tonnes a month(32). This requirement did not take into account the additional needs due to induction of 62 and 68 brigades in Kameng Frontier area as well as forward stocking of 7 Mtn Brigade beyond Tawang. The total Army requirement worked out, in the changed circumstances, to about 2,200 tonnes per month, while the Air Force had the lift capability of barely 1200 to 1300 tonnes a month(33). Even this tonnage, it was accepted, could not reach the troops, as 25% to 30% would be lost in the air drops in the steep jungle-clad mountains of NEFA.

The reality of inadequate Air Force capacity forced the Government to continue with the operations of Kalinga Airways even after 10 September 1962. On 28 October 1962, the Army Headquarter (Military Operations Directorate) wrote to the Ministry of Defence that the air supply and load allotment between IAF and Kalinga Airways should be decided by IAF, Army, Inspector General of Assam Rifles and Kalinga

Airways in a joint consultation(34). The aging Dakotas of Kalinga Airways thus continued their supply missions during the conflict and well into 1964.

Soon, a new problem cropped up; shortage of supply dropping equipment (SDE) e.g. Parachutes, skid boards & lashings. The priority of air supply shifted to east after formation of IV Corps and arrival of Gen Kaul. The Military Operations Directorate on 5 October 1962, revised the Sector-wise allotment of SDE as under:-(35)

	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>
(a) Eastern Command	8000	2000	2000
(b) Western Command	NIL	6000	6000

The tempo of air supply to NEFA quickened further when on 8 October 1962 the Chief of Air Staff ordered Eastern Air Command to form 1 Operational Group at Tezpur, to control all IAF activity in NEFA(36). Visualizing Chinese air threat to forward airfields at Tezpur, Guwahati and Jorhat, certain air defence resources were also deployed. The prodding from the top had the desired results and the IAF operated nearly 3 sorties per aircraft per day, and by 23 October 1962 was prepared to drop nearly 200 tonnes daily(37). The crisis atmosphere generated by Chinese attack made the air force flog the men and machines to the limit of their endurance. During the conflict itself, adequate ammunition and supplies were dropped at Se La to stock the brigade position for 15 days.

A squadron of Otters (59 Squadron) as well as 105 and 110 Helicopter Units (HU) carried out daring landings on unprepared surfaces in NEFA to deliver supplies to the Army. The Otter's inducted an entire brigade (11 Infantry Brigade) from Tezu to Walong. The squadron which was mainly operating from Jorhat, moved a detachment of two Otters to Tezu on 28 September 1962. During the conflict the Otters flew 982 hours, and air-lifted 414 tonnes of supplies, and 2083 troops(38). The aircraft on return journeys from Walong evacuated casualties, thus saving many valuable lives. This did contribute significantly to the raising of morale of the Walong garrison. Helicopter units, then very small in numbers, performed equally well. The 105 HU with just 3 Bell 2 Sikorsky S-55 and two Alouette helicopters flew 55 hours, dropped 14.6 tonnes of supplies and rescued 13 personnel(39).

The 105 HU was operating in the Namkha Chu area. On 20 October, Sqn Ldr A.S. Williams took this

helicopter to Tsangdhar as there was no news from Sqn Ldr Sehgal. On seeing the enemy in occupation of Tsangdhar feature, Williams turned back but his helicopter was shot at by the Chinese. He managed to force land his "Chopper" close to Zimithang, and was rescued by a MI-4 helicopter. His own helicopter had to be written off. In the meanwhile, the third helicopter at Zimithang was lost when on return from a sortie, it came under Chinese fire. In the chaos of withdrawal, the aircrew and ground staff had to make their way back on foot for three days. The 105 HU thus suffered a loss of three valuable helicopters. In November 1962, the unit received freshly arrived two Alouette III helicopters and continued to support the Se La and Dirang garrisons. The helicopter pilots showed exemplary courage in undertaking "impossible" tasks, often landing with help of a mere torch light on difficult mountain tops to rescue the wounded(40).

The story of 110 HU, raised only in September 1962, was equally heroic. This unit operated the bigger and better MI-4 helicopter(41). In a short time the unit had attained a fully combat-ready status through intensive training. The unit mainly operated from Tezpur and carried out sorties in Tawang Sector. A detachment of 3 helicopters was sent to Walong Sector on 26 October 1962. There, these machines helped the Otters in the army build up at Walong. As a result of day and night efforts in October and November the Unit carried out an average of 3 sorties per day per pilot and lifted 16000 lbs of load daily. On 22 October 1962 alone, the helicopters flew 62 sorties from Tawang and rescued 176 women and children from the clutches of the invaders. Once the withdrawal of ground troops commenced, the helicopters dropped rations for withdrawing columns and picked up the wounded. Many an Armyman owes his life to the brave and untiring helicopter pilots of the IAF. During the supply missions, one helicopter was shot down in Walong on 16 November. The crew managed to escape alongwith the Army. The unit during the operations carried 180,000 lb of supplies, 1700 personnel and flew a record 650 hrs: a record in which any unit could take justifiable pride(42).

In response to frantic appeals for air supply, made by Lt Gen Kaul, the CAS suggested pooling of civil airlines resources under Kalinga Airways(43). Possibility of using foreign pilots on Air India (the national carrier) and diverting the Indian crews to IAF was also considered seriously. At that point, however, it was a case of too little and too late, as the ground situation in NEFA worsened. The reason for these reverses have been dealt with adequately in earlier chapters.

The air supply effort in NEFA suffered from several drawbacks. The biggest problem was the very few suitable dropping zones in the narrow valleys of NEFA. This meant that a large tonnage was lost, as the stores fell into deep ravines. The narrow valleys and high peaks forced a para drop from greater heights. This affected the accuracy of the drop and dispersed the stores over a large area. The fickle mountain weather in those parts meant that there would be 'bunching' of drops on a clear day. As the dropped supplies had to be man-handled over difficult terrain, it often transpired that even though the IAF had fulfilled its targets, it was days before the supplies actually reached the troops.

The transport air support operations had all the hallmarks of a hastily planned venture. The basic decisions were taken barely a month before, and resources were in at the last moment. There is a similarity here with what was happening on the ground.

NO OFFENSIVE AIR SUPPORT

Air Strengths and Deployment

Ever since the experience of Second World War, it has been axiomatic that the use of fighter and bomber aircraft in support of ground troops was an integral part of all wars. On the eve of the 1962 conflict both China and India had fairly large air forces. The Chinese are estimated to have had about 1500 frontline aircraft while the Indian Air Force had 559 Fighter and Fighter Bombers. One noteworthy feature of 1962 conflict is that while on the Indian side there was at least air transport activity, on the Chinese side there was complete absence of any flights. In the early 50s when the Chinese moved against the Tibetans, there were reports of use of aircraft to bomb and strafe the Tibetan resistance strongholds, but in 1962 the Chinese Air Force as well as IAF fighters and bombers, were conspicuous by their absence.

The table below gives the estimated balance of forces in the air.

PEOPLES LIBERATION AIR FORCE OF CHINA (PLAF) (44)

FIGHTERS

MiG 15s & MiG 17s 1350

MiG 19s 150

1500

BOMBERS

Ilushin 28 500-600

Transport aircraft

Ilushin 14s

and some others 300-400

INDIAN AIR FORCE (FIGHTERS & FIGHTER BOMBERS ONLY(45)

<u>FIGHTERS</u>		<u>BOMBERS</u>	
Dragons (Toofani)	57	Hunters	140
Vampires	224	Mysteres	105
Gnats	33	Total	559

The bulk of the Indian Air Force strength was based on the airfields of Punjab in the west. However, at the time of conflict, there was a considerable fighter strength in the east as well. This strength included two squadrons each of Toofanis and Vampires as well as a detachment of Hunters, a front line aircraft of the time(46). These were located in Tezpur, Chabua, Jorhat and Bagdogra. In addition, nearly two squadrons of Hunters were also available nearby at the air base at Klaikunda. Photo recce missions were also being carried out from Tezpur by Canberra bombers specially fitted for the role, though they were never based there. The infrastructural facilities for the Air Force in the east were thus adequate enough, should the need have arisen. Since a large fleet of the Allied Air Forces were based in Assam and Bengal during the Second World War, there were many air strips in the area. The veterans of the Burma campaign, where most of the Royal Indian Air Force pilots were first blooded in combat, also had good experience of close support of the ground troops in jungle terrain. In that sense the Indian Air Force by training and equipment was a tactical air force, well suited for the role of support of the ground forces.

The bulk of the Chinese Air Force was deployed on China's eastern sea board and against Formosa, where Chiang Kai-Shek and his air force were regarded as the primary threat to Chinese security. Besides, the massive US air power based in Japan, South Korea and Philippines was also a potential danger. The PLAF at that time consisted of mostly obsolescent aircraft like MiG 15 and 17. Only the MiG 19 was comparable to Hunter of the IAF in terms of performance. The Chinese faced a major problem due to lack of infrastructure in Tibet. While no firm information is available about the exact state of the logistics backing in 1962, the data available for even later years show that the Chinese did not have adequate facilities to conduct sustained operations from these airfields.

In addition to the formidable problem of infrastructure, the geography of the area was for

once, also unfavourable to the Chinese. Most of the airfields were located on the high Tibetan plateau. The high altitude meant that the aircraft required much longer runway and consumed much more fuel on take off. This reduced the effective range of the aircraft. In addition the lift off weight was also reduced, and thus the effective bomb load that could be carried was less. The Chinese air force did not have any mid-air refuelling facility. The Indian air-fields, on the other hand, were located at sea level and faced none of the disadvantages faced by the Chinese.

The "intelligence review" made by the Army Headquarters (and also addressed to Air Headquarters) had some idea of the location of Chinese airfields as known then. The air-fields that could be used against Indian targets in the west were Khotan (ht 1380 M) and Kashgar (ht 1290 M). The airfields that could be used for operations in the east were Jeykundo (3800 M), Chamdo (3230 M), Nachu (4500 M) and Kunming (2080 M) (47). Airfields were also reportedly coming up at Yatung and Tuna Plains.

Proposals and Decisions

As the tension grew on the Indo-Tibetan border during 1959, some efforts were made to assess the Chinese air threat. In July 1959 it was learnt that the Chinese had constructed a large number of airfields and landing grounds in Tibet(48). These facts were confirmed by the Army Headquarters. However, the Air Headquarters does not appear to have conducted any indepth study(49).

In the absence of any professional indepth and competent technical analysis of the Chinese threat and Indian counters, the spontaneous predominant feeling was that the Chinese enjoyed great superiority in the air, based on a sketchy information about their overall strength. Little thought seems to have been given to the force that the Chinese were capable of bringing to bear along the Indo-Tibetan border. The Operational Instruction No. 26, issued to Western Command (Appendix IV) as well as war game 'Sheel' carried out in Shimla (refer to Chapter on Fighting in Ladakh) clearly reflect this dominant feeling.

In the Western Sector, as the crisis at Galwan post (where the Chinese had surrounded an isolated Indian detachment on 4 July 1962) deepened, HQ XV Corps requested Western Command that, in order to boost the morale of troops, Indian Air Force should fly over these posts(50). It appears that the SOP (Standard Operating Procedures) were activated and air support communications were established between Leh and No. 1 Operational Group at Palam on 18 September 1962(51). On 19 October 1962, Air Support Signal Units established communication network, first with Adampur and later with Halwara airfields. The fighter/bomber aircraft at these locations were put on operational alert for flying air support missions to Ladakh. As the fighting on ground intensified and Indian Army had paucity of Artillery (guns) while the Chinese enjoyed virtual supremacy, HQ XV Corps on 31 October 1962, requested Western Command for provision of close air support(52). The Corps Commander felt that in the open and flat areas of Ladakh, offensive air support would greatly assist him. Accordingly he urged the Army Commander, Western Command, to take up the matter of air support with the government.

The situation in the east (NEFA) was even more desperate. The Government of India decision to evict the Chinese from their encroachment in Kameng Frontier Division (Thag La Ridge area) was conveyed to Eastern and Western Commands by the Army Headquarters by a signal on 22 September 1962(53). The reality on ground in the Namkha Chu valley, where 7 Brigade was expected to achieve this goal of evicting the Chinese, was different. The total fire support to this brigade consisted of two Para Field gun (75 mm) air dropped at Tsangdhar. Out of these two guns, one had got damaged. In any case the guns did not have the range to engage the Chinese on Thag La Ridge. The IV Corps Commander who had meanwhile gone to the spot sent a signal on 9 September 1962, requesting government approval for use of IAF Fighter aircraft(54). The signal went on: "Use of close air support be considered should this be necessary in our assault on the enemy position." A more desperate signal from IV Corps Commander on 7 October 1962, mentioned the possibility of a Chinese offensive and stressed that he had no resources to meet this. He recommended that "all air & military resources" should be marshalled to restore the situation(55).

Army HQ turned down the IV Corps request of 9 September on 11 September 1962. The Signal categorically stated that close air support would not be used. A signal sent to IV Corps on 7 October reveals the basic reason for denial of this

permission. "Use of offensive air support not to our advantage" was the key phrase. Army HQ pointed out that the Chinese were bound to retaliate, and this would interfere with Indian transport aircraft flights on which they were solely dependent. Similar signal was sent to Western Command as well. This logic was further expanded during the briefing in the Ops Room. It was stated that from their airfields in Tibet (about which it was acknowledged that Indians had no precise information) the Chinese could bomb vital centres of communication, population and industry. The acceptance of this line of reasoning was reflected in IV Corps Operational Instruction dated 5 November 1962(57). The Corps accepted that the risk of Chinese interference with own supply was not worth it. In the meanwhile, however, the only concession made to these persistent requests for offensive air support was that the IAF in both east and west was placed on alert, to be able to come to support of Army at short notice. A proviso was added that sanction for this would only be given in 'extreme emergency'.

There is no accurate or authentic documentation of the thinking that was behind this decision to desist from use of offensive air support. Air Marshal H.C. Dewan (Retd), the then Director of Operations at the Air HQ has recounted that he had sent a note to Chief of Air Staff about the use of offensive air support(58). His main conclusion was that the terrain in the area of operations, specially NEFA, being heavily jungle-covered, close air support would be difficult and could have very little effect on dispersed infantry. Since there was no possibility of large concentration of tanks or vehicles in these areas, there were no worthwhile targets for the Air Force. His note further stated that since Indian troops were critically dependent on air supply, it was best not to provoke the Chinese. Referring to the large size of the Chinese air force, he made a point that while China could easily replenish her losses, India could not. He also mentioned that Pakistan's attitude was a question mark, and the IAF resources had to be kept in the west to deal with this threat. The note concluded by referring to international repercussions of this, as the whole world would know that India had 'escalated' the conflict(59). This would deprive India of international public sympathy which was otherwise with it as a victim of aggression. Most of these considerations were equally applicable to Ladakh.

The Air Marshal also recounted that Defence Minister, Krishna Menon, discussed this issue after the conflict was underway. The Defence Minister was probably in favour of full use of the IAF, as

revealed by Prof J.K.Galbraith, the then US Ambassador to India(60). However, it appears that in the light of the weighty professional opinion of Air HQ, the political leadership did not think it wise to use the Air Force in the offensive role.

It also appears that the US Ambassador, who frequently met the top Indian leaders during the Sino-Indian conflict, tilted the balance in favour of non-use of the Air Force. In his account of these events, he opines that while Indian cities in the Gangetic plains and industries around Calcutta would be destroyed by the Chinese, Indian aircraft could at the most reach Tibet. There were no worthwhile targets there. He also buttressed his arguments by saying that air power was useless against infantry in jungles, as US had found out in Korea. The Ambassador also mentions that on 19 November 1962, the Indians sought US fighter planes to protect Indian cities while the IAF was used tactically against the Chinese. Gailbraith felt that the Indians were not sufficiently aware of the dangers of this course, and in any case it was not possible to execute it quickly(61).

The Chinese Air Threat

For the eastern sector, the Chinese had six airfields in and around Tibet during 1962 operations. Zinning, Lanchous and Kunming air bases were located too far away from the international border to have any bearing on the ground battle. Nachu, though closest to the battle zone, was situated at an altitude of 4500 metres, hence was unfit for fighter/bomber operations. Jyekundo (elevation 3800 M) and Chamdo (altitude 3230 M) were fit for MiG -19 operations against NEFA area, though with pay-load reduced by as much as 2000 kgs. Therefore, these aircraft could be effective in the area with cannon only, whereas Il-28 could carry a bomb load of 3000 kgs. It is assessed that a squadron each of MiG-19 and Il-28 could have been operated from these bases. Cities like Dibrugarh, Jorhat, Guwahati, Shillong and Kohima were within the reach of IL-28 aircraft, which could drop about 45,000 kgs. of bomb load per day. Hence the PLAF with reduced capability could have little influence on the ground battle.

It need hardly be mentioned that the strike range of a fighter or bomber aircraft is dependent on the flight profile - whether high or low flying on approach to and departure from the target. In turn the flight profile must be governed by the terrain and air defence environment, particularly early warning radar. In the Indo-Tibet border areas, in the east as well as the west, in 1962, the air defence environment

was rudimentary or non-existent by modern standards. Therefore, the radii of action of Chinese war planes operating from the high altitude airfield in Tibet may be worked out as follows:-

Type of aircraft	Weapons	Profile	Radius of action	Remarks
IL-28	3000 Kgs(bombs) plus 4x23 mm cannons	Hi-Lo-Hi	700 Km	2 sorties/day
MiG 19	2x250 Kgs(bomb) plus 3x30 mm cannons	"	365 km	3 sorties/day

The Indian Capability

Comparatively, Indian Air Force was equipped with better and more modern aircraft like Hunters, Mysteres, and Canberra bombers. These fighter bombers could have been deployed at all the available airfields in the Assam Valley, and they could reach targets restricted to their radii of action as shown on the sketch map. Further these planes would have carried their full armament load, since the air bases were situated at almost sea level (Runway altitudes varying from 70-150 metres). Assuming that the IAF could, in addition to the Vampires, and Toofanis already deployed in the theatre, deploy four squadrons of Hunters and two of Canberras, in the eastern sector the force was capable of delivering 144000 kgs of bomb-load by Hunters and 192000 kgs by the Canberras. Hence, the IAF could carry greater punch and cause considerable damage to the Chinese forming up/concentration areas, lines of communication, etc. Lhasa city was within the reach of both fighters and bombers of the IAF. The bombers could strike almost all airfields in Tibet and the cities of Kashgar, Yarkand, Khotan, etc., in the west.

Radii of action for IAF aircraft are tabulated below:-

Type of aircraft	Weapons	Profile	Radius of action	Remarks
Canberra	8000 lbs (bombs)	Hi-Lo-Hi	830 km	2 sorties/day
Hunter	2x1000 lbs (bombs) plus 4x30 mm guns	"	445 km	3 sorties/day

It might be appropriate to mention that though no threat was perceived from the Chinese, the IAF had deployed a few fighter squadrons equipped with Vampires and Toofanis in the Assam Valley. These fighters were deployed mainly for carrying out anti-insurgency role. No formalised training or suitable tactics were evolved to meet the threat in the mountainous/hilly terrain of NEFA. Notwithstanding these shortcomings, the fighter pilots were ready, confident and capable to carry out operations in these environment.

It is felt that during Chinese conflict, had the IAF been used offensively specially in NEFA, the outcome of the one-sided war might have been different. As can be seen from the above Table, the Chinese airfields were so far from battle zone that aircraft had to operate at extreme ranges with reduced weapon loads. The Indian Air Force on the other hand could dominate the entire battle zone from comparatively close-by air bases, and with better and more modern war planes.

The bomber force, operating in air defence free environment (PLAF did not have early warning or Ground Control Interception (GCI) Radars) would have, by carrying out strikes on the airfields, denied the use of these few airbases to the enemy. The fighters Hunters and Mysteres were ideally suited to carry out deep and battle-field interdiction, whereas the Vampires could have been used to provide close air support where feasible. Deployment of Hunters in the east would admittedly have weakened the force levels in west against Pakistan, but air power can be projected very quickly in any direction on call. In the west itself, the fighters were capable of supporting Chushul from Adampur and Halwara bases. This would have enabled them to be used against Pakistan as well if the need arose.

Hence, it is felt that use of air power by India could have favourably influenced the course of events. IV Corps as well as Western Command had requested for offensive air support, which was turned down. On the other hand with 2-3 airfields in operation in Tibet and with meagre infrastructure the Chinese were not capable of either countering the IAF or posing a worthwhile threat to cities in the plains. Further, the fact that 5 Inf Div was moved from Indo-Pak border gives credence to the fact that in the overall scenario then prevailing, an attack from Pakistan was unlikely, and a sizeable portion of IAF fighters/bombers could have been used/deployed against the invaders in the Ladakh as well as Arunachal sectors.

CONCLUSION

The Sino-Indian conflict of 1962 was an incremental war that gradually escalated from border skirmishes to full blown conflict. The desire and expectation on the Indian side right upto 20 October 1962 was to limit its scope and intensity. The role of Indian Air Force in this first bloody Conflict between two Asian giants was a limited one. Transport air support proved crucial, as the whole success of 'the forward policy' depended upon it. Yet the transport resources were clearly inadequate for the task, as seen from slower than planned build-up in Ladakh. In NEFA during the conflict major effort was made to drop desired tonnages. But here the nature of the terrain (in Namkha Chu) meant a loss of any thing upto 60% of the dropped equipment.

Besides the weather, supply dropping equipment (SDE) and parachutes proved another bottleneck. Unlike in other areas, these could not be retrieved and re-used. However, at Walong and in Chushul, the transport support proved invaluable in helping the ground troops to fight a battle on somewhat better terms with the Chinese. The Otters in Walong and Packets and AN-12s in Chushul performed great feats. The crucial air lift of AMX-13 tanks and 25 Pdr guns to Chushul may well have saved the day in Ladakh.

The issue of offensive air support is a contentious one. The advice given in 1962 by Air HQ lacked depth and was perhaps unduly pessimistic. The role played by a foreign ambassador (U.S.) appears to have been crucial and negative to the outcome of fighting. This might or might not have been part of a larger US design to get India under its fold, as nearly happened in the aftermath of 1962 debacle.

The conclusions about threat to Indian cities were much exaggerated and the same data when analysed today has yielded different conclusions namely, India had an edge in the air. Recently a defence analyst has noted that at that time the Chinese Air Force was virtually grounded due to the dispute with Soviet Union, leading to shortages of spares(62). The Soviet Union also tilted the transport balance in favour of India through its supply of the then top of the shelf AN-12s and MI-4s.

The over-riding impression on ground fighting in NEFA, where the real debacle took place, is that loss of morale was the primary factor. In case the Indians had used the Air Force while Chinese could not, it would certainly have raised Indian morale. In

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In addition, the slower moving aircraft were certainly capable of bombing mountain passes and causing landslides. While the Infantry columns could still move, they would be without artillery or even logistic support. In Ladakh, the long Chinese vehicular columns that moved with impunity would have certainly fallen prey to the IAF. The exact outcome in the case of use of offensive air support remains in the realm of speculation, but speculation founded on careful analysis does point out this to have been possibly one of the major mistakes of this ill-fated war (63).

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NOTES AND REFERENCES

1. The road Srinagar to Kargil had existed for a number of years. The link between Kargil and Leh was partially completed in early 1962, but regular convoys started only by August 1962. From Official Records.
2. OP ONKAR & LEGHORN have been fully described in Chapter dealing with ground fighting in NEFA.
3. Lal, P.C., Air Chief Marshal (Retd), 'My Years with the IAF' (Lancer International, New Delhi 1986) pp.97-120.
4. From Official Records.
5. Lal, P.C., Air Chief Marshal (Retd), 'My Years with the IAF' (Lancer International, New Delhi 1986), p.99.
6. From Official Records.
7. Lal, P.C., Air Chief Marshal (Retd), 'My Years with the IAF' (Lancer International, New Delhi 1986), p.100. Also From Official Records.
8. From Official Records.
9. Ibid.
10. Ibid.
11. Ibid.
12. From Official Records. Monthly Co-ord Meetings between IAF and Army were held regularly and notes kept in official records from 30 June 1961 onwards, which was possibly the first meeting. Conferences were also held in New Delhi. Important Co-ord Conferences were held on following dates :-
 - (a) 25 February 1962.
 - (b) 11 May 1962. A discussion about Air maintenance held at Srinagar in which the Defence Minister also participated.
 - (c) 30 July 1962. Conference on Air induction attended by GOC XV Corps and AVM Pinto of No.1 Operational Group.
13. From Official Records.

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14. Ibid.
15. Ibid. It was mentioned that due to heavy traffic Chushul Airfield may go out of order and asked 3 Himalayan Div to think of alternatives.
16. From Official Records.
17. Ibid. In March 1960, as part of phasing out of Dakotas, 43 Sqn received orders to move out from Jammu and Kashmir and merge with 48 Sqn. These orders were soon changed and the Sqn shifted back to Jammu and Kashmir from Barrackpore.
18. From Official Records.
19. Ibid.
20. Ibid. Army HQ wrote to Western Command, on 28 February 1961, suggesting the priorities in view of shortfall in Airlift.
21. Refer to Chapter VII on Fighting in Ladakh.
22. From Official Records.
23. From Official Records. The data is incomplete and approximate.
24. From Official Records.
25. Ibid.
26. Ibid.
27. Ibid.
28. Ibid.
29. Ibid.
30. Ibid.
31. Ibid.
32. Ibid.
33. Ibid. This was the observation by AOC-in-C Eastern Command.
34. From Official Records.
35. Ibid.

36. Ibid.
37. Ibid.
38. Ibid.
39. Ibid.
40. Ibid.
41. Ibid.
42. Ibid.
43. Ibid. It was proposed to pool in 8 Dakota from Non-Schedule airlines for the supply drop operations. In its signal Army HQ informed Eastern Command about Government decision to engage Foreign Pilots for Air India and side step the Indian Pilots to IAF.
44. Military Balance, 1962-63 (London 1963, 1155).
Also From Official Records.
45. From Official Records.
46. Ibid.
47. Ibid.
48. Ibid.
49. Interview with Air Marshal H.C. Dewan (Retd) on 4 May 1988.
50. From Official Records.
51. Ibid.
52. Ibid.
53. Ibid.
54. Ibid.
55. Ibid.
56. Ibid.
57. Ibid.
58. Ibid.
59. 'Escalation' is a much misunderstood phrase.

is neither automatic nor across the board. It should have been possible to use fighters within the Indian territory and putting the onus of escalation on Chinese in case they extended the fighting by attacking rear areas. There is a perceptible lack of clear strategic thinking in Indian Government at that time.

60. Galbraith, J.K., Ambassador's Journal (H. Hamilton, London, 1969), pp.445-486.
61. Ibid.
62. K. Subrahmanyam in 'Hindu' dated 22 August 1989. Quoted from article, 'Why No National Security Council'. Also, Asian Recorder, February 26 - March 4, 1963. A defector pilot from PLAAF had talked of shortage of pilots and low level of training.
63. The analysis of Chinese and Indian Air Force capabilities is based on research carried out by Air Commodore O.P. Sharma, VM (Retd).

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