

POLICY BRIEF

Airpower Across the Himalayas: A Military Appreciation of Chinese and Indian Air Forces



**S. RAJARATNAM SCHOOL
OF INTERNATIONAL STUDIES**

A Graduate School of Nanyang Technological University

**Air Marshal V. K. Bhatia (Ret.)
December 2013**

Airpower Across the Himalayas: A Military Appreciation of Chinese and Indian Air Forces

Executive Summary

This brief analyses the role of air power in a potential conflict between India and China. While doing so, it carries out a comparative qualitative and quantitative study of both air forces and their relative capabilities. The main argument is that while China's People's Liberation Army Air Force (PLAAF) has a quantitative edge, the Indian Air Force (IAF) will be more than able to hold its own.

A comparison of the two Air Forces reveals the following:

- Both the Air Forces are suffering on account of inadequate numbers of force multipliers like AWACS/AEW&C and flight refueling systems.
- The doctrinal concepts of the two air forces are converging with a common emphasis on transformation, all weather precision strike capability and network centric operations.
- The PLAAF has a significant quantitative advantage and in addition scores over the IAF in its superiority in unmanned systems and superior ground based air defence systems. On the other hand, the IAF has also taken positive steps to improve its fixed-wing airlift and rotary-wing capabilities by inducting C-130J Super Hercules and C-17 Globemaster III aircraft from the U.S. which substantially increase its strategic/tactical airlift capabilities.
- The PLAAF may find itself at a disadvantage vis-à-vis the IAF when deploying for air operations in the Tibetan plateau due to its rudimentary support infrastructure and reduced payload due to high altitude.

Introduction

This brief analyses the role of air power in a potential conflict between India and China. While doing so, it carries out a comparative qualitative and quantitative study of both air forces and their relative capabilities. The main argument is that while China's People's Liberation Army Air Force (PLAAF) has a quantitative edge, the Indian Air Force (IAF) will be more than able to hold its own.

The Sino-Indian border issue is one of the biggest hindrances to normalisation of ties between the two Asian giants. While many wonder whether Asia is large enough for them, and their growing ambitions, India's strategic community focuses on more immediate and pressing questions. Without losing sight of the overall trajectory of Sino-Indian relations, they also have to consider, as military planners do, the possibility of China initiating a fresh military conflict in the near or mid-term in support of its territorial claims. This brief analyses the role of air power in a potential conflict between India and China. While doing so it carries out a comparative qualitative and quantitative study of both air forces and their relative capabilities in the region. The main argument is that while China's People's Liberation Army Air Force (PLAAF) has a quantitative edge, the Indian Air Force (IAF) will be more than able to hold its own. However, there are two caveats. First, a Sino-Indian conflict is neither desirable nor inevitable. The leaderships in both countries at all levels—political, diplomatic and military—appear to be cognisant of this fact and are trying their best to settle their differences peacefully. Second, it is notoriously difficult to envisage and predict how a future Sino-Indian border conflict may play out.¹ This brief does not dwell on the circumstances that could lead to such a clash and is instead a straightforward military appreciation of the air power balance across the Himalayas.

¹ Some of these issues are discussed in V.K. Bhatia, "Deterring the Dragon," *SP's Aviation*, Issue 12, 2012. Available at: <http://www.spsaviation.net/story_issue.asp?Article=1122> accessed on 28 August 2013.

The Lessons of '62

The 1962 India-China war has understandably left a lasting legacy on the bilateral relations between the two countries. On the Indian side, one of the enduring controversies of this war has been the non-use of the combat arm of the Indian Air Force (IAF), which is commonly believed to be a major cause for the debacle.² At the time, China was hardly in a position to use its air power to influence the ground battle. It is well known that in 1962 China's offensive air capabilities in the Tibetan region were practically non-existent because of the design/operational limitations of its fighter fleets, which consisted mainly of MiG-15s, MiG-17s and a few MiG-19s and because China possessed hardly any worthwhile high-altitude airstrips in Tibet for these aircraft to operate from. Similarly, China's capability to strike Indian cities with its bomber aircraft such as the IL-28s was also limited owing to constraints of range when operating from its mainland airfields. The Chinese bombers would have also been highly vulnerable to interception by the IAF air defence fighters once over Indian territory.

The IAF, on the other hand, could operate with ease from its many airfields located in the plains in both the western and eastern theatres without compromising on their payload capabilities and could be employed in traditional interdiction and close air support roles. Properly used, Indian jet fighters would have caused havoc to the (deprived of air cover) Chinese ground forces. In the end however, neither China (because it could not) nor India (because it would not, largely due to unfounded fears of the Chinese Air Force) used their combat aircraft, resulting in the Indian army succumbing to the much superior Chinese ground forces. But that was more than half a century ago. In the new millennium, it can be said without any ambiguity that in the event of China initiating another round of conflict in the form of a limited war to militarily settle the border dispute with India, it can and would make full use of its air power in a bid to force the outcome in its favour once again.

The question that looms large then is—in the current scenario, how does the PLAAF match up against the IAF? And what are their capabilities and constraints?

PLAAF (Chinese Air Force) in its New Avatar

A well-planned, long-term and time-bound approach to military modernisation – conceived as part of Deng Xiaoping's 'Four Modernisations' – was instrumental to start the process of transforming the PLAAF from an antiquated, derelict, poorly trained and over-sized force of the 1960/1970s to a modern 'lean and mean' aerospace power with increasing proficiency to undertake its stated mission in the 21st century. It was not an easy task to start the process of the PLAAF's modernisation, which was so heavily shackled to the archaic system of the People's Liberation Army (PLA). It is sometimes said that one of the reasons China went to war with Vietnam was Chairman Deng Xiaoping's desire for his army brass to understand the importance of air power even at the expense of Chinese forces getting a bloodied nose. However, the real eye-opener for the Chinese leadership was the U.S. 'shock and awe' aerial assault against Iraq during the 1991 Gulf War, which established beyond doubt the predominant role played by air power in the conduct of modern warfare. American mastery over the air and its technological superiority spurred transformation efforts in the PLAAF.

China's military modernisation (especially of the PLAAF) has been progressing purposefully over the last two decades. China made full use of Russia's post-Cold War economic hardships by buying its military equipment and aerospace technologies on favourable terms. It bought the Su-27 aircraft from Russia and copied it to produce its indigenous version, J-11, in large quantities. It also equipped the PLAAF through outright purchase from Russia, the Su-30 MKK (an advanced version of Su-30) and the Su-30 MK2 air dominance fighters. The Israelis, on the other hand, passed on the technology connected with their stalled 'Lavi' programme for China

² See "1962 war would have been different had IAF been on the offence: ACM," *Indian Express*, October 05, 2012.

to successfully develop and produce its 4th generation and 4th generation+ J-10 and J-10B jet fighters, respectively. But it is not only the Soviet/Russian designs or the Israeli aerospace technologies which have provided the leap forward; the Chinese aerospace scientists have themselves been carving out major successes in indigenous design and development. On 11 January 2011, China stunned the global aviation community by test-flying the Chengdu J-20 – its first 5th generation stealth jet fighter. The Chinese then made it a double on 31 October 2012 by launching

the J-31, another 5th generation jet fighter. Both these prototype designs are reportedly under different stages of development and are likely to become operational around 2020.³

Having discarded the so-called ‘dead-wood’ from its inventory, the PLAAF currently has over 1,500 combat jet fighter aircraft comprising of a judicious mix of 4th/4th+ and 3rd generation aircraft as described in Table 1 below.⁴

Table 1: PLAAF Fighter/Bomber Aircraft Holdings

Aircraft	Origin	Type	In Service	Remarks
J-10	China	Multi-role	(240+)300 +	4 th /4 th + Gen
J-11	China	Air-superiority/Multi-role	(205+)200	4 th Gen
Su-27	Russia	Air-superiority	(75)70	4 th Gen
Su-30 MKK	Russia/China	Air-superiority	73	4 th /4 th + Gen
JF-17/FC-1	China/Pakistan	Multi-role	N/K ⁵	4 th Gen
J-8	China	Interceptor	168	3 rd Gen
J-7	China	Interceptor	504	3 rd Gen
JH-7	China	Strike	120 ⁶	4 th Gen
H-6	China	Bomber	82	3 rd Gen
Q-5	China	Ground Attack	120	3 rd Gen

In addition, the PLAAF has a large inventory of transport aircraft: IL-76 strategic airlifters (20-30), multi-purpose Y-8 transporters derived from the Russian four-engined An-12 design (100-120), Y-7 based on An-26 twin turbo-props and 300+ Y-5 single-engined light utility aircraft. The PLAAF also boasts of a sizable number of VIP transport aircraft which include Tu-154M and the smaller Bombardier Challenger 600, etc. In addition, it fields 500+ helicopters comprising of attack and utility versions of indigenous and Soviet designs. It has also acquired about two dozen Sikorsky S-70 Black Hawk utility helicopters from the U.S.

The PLAAF’s ‘force-multiplier’ fleet of Airborne Warning and Control Systems (AWACS), Airborne Early Warning and Control (AEW&C) and Flight Refuelling Aircraft (FRA), though small, is likely to grow with time. However, where China really scores is on its holdings of a very large variety and numbers of Unmanned Aerial Vehicle (UAV)/Unmanned Combat Air Vehicle (UCAV) and target drones which could be used for multi-farious missions. Also, China possesses large quantities of short/medium range ballistic and cruise missiles which could be used to strike all types of targets inside enemy territory with conventional warheads.

³ Russell Hsiao, “China’s Fifth-Generation Fighters and the Changing Strategic Balance,” *China Brief*, Vol. 9 Issue. 23, November 19, 2009, available at: [http://www.jamestown.org/programs/chinabrief/single/?tx_ttnews\[tt_news\]=35745&cHash=f88fba6a86](http://www.jamestown.org/programs/chinabrief/single/?tx_ttnews[tt_news]=35745&cHash=f88fba6a86), accessed on 27 December 2012.

⁴ *The Military Balance 2013*, International Institute for Strategic Studies, London, Vol. 113, No. 1 (2013), pp. 291-292.

⁵ China is still in the process of evaluating the aircraft while the Pakistan Air Force (PAF) has already inducted two squadrons. Once inducted in PLAAF, these aircraft will replace the older J-7 aircraft.

⁶ JH-7 aircraft are being inducted in greater numbers to replace the older Q-5 ground attack aircraft.

IAF (Indian Air Force): Coming Out of the Pits – Present and Future

Ironically, in the 1990s, when China hit the ‘fast forward’ for the PLAAF’s modernisation, the IAF was confronted with a void due to India’s then precarious financial position and the breakup of the Soviet Union—till then, the major provider of defence equipment to India. This had a ripple effect on the IAF, which began to experience a crippling drawdown in terms of the strength of its combat jet fighter squadrons and other combat equipment. The IAF, which had laboriously built up its combat force levels to 39 ½ fighter squadrons by the late 1980s, lost almost a quarter of its strength and was teetering at a record low of around 29 squadrons by the middle of the last decade. This happened despite the induction of the Su-30 (later Su-30 MKI) into the IAF which had commenced around the turn of the century. The extraordinary delay in the indigenous Light Combat Aircraft (LCA – *Tejas*) programme did little to

help matters. In an endeavour to stem the downslide, the IAF ordered more Su-30 MKIs—with the order swelling up to 272 aircraft—and vigorously pursued the 126-aircraft Medium Multi-Role Combat Aircraft (MMRCA) programme. The IAF has already received a little over 170 Su-30 MKIs to form eight squadrons so far. In a recent interview, the IAF Chief, Air Chief Marshal N.A.K. Browne stated that “in the 12th plan which finishes in 2017 we will continue to maintain 34 squadrons. We will not allow the force levels to drop. They go up a little bit, up and down but they will remain at 34 squadrons but with far greater capability than even what we have today.”⁷

“A force level of 34 fighter combat squadrons had been achieved and combat capabilities restored.” But, purely in numerical terms, the IAF is down to 799 jet fighters (See Table 2).⁸

Table 2: IAF Combat Jet Fighter Force Levels (Present Status)

Aircraft	Origin	Type	In Service	Remarks
Su-30 MKI	Russia/India	Air Dominance/Multi-role	194	4 th Gen+
Mirage 2000	France	Multi-role	50	
Jaguar	France/UK	Strike	106	3 rd Gen ⁹
MiG 29	Russia	Air Superiority	63	3 rd Gen
MiG 27	USSR	Ground Attack	127	3 rd Gen ¹⁰
MiG 21 Variants	USSR	Interceptor/Multi-role	259	2 nd /3 rd Gen

⁷ “MiG-21s served us well, will be phased out by 2014, Air Chief tells NDTV: full transcript,” *NDTV. Com*, October 05, 2012, <<http://www.ndtv.com/article/india/mig-21s-served-us-well-will-be-phased-out-by-2014-air-chief-tells-ndtv-full-transcript-276000>> (accessed on 18 November 2013).

⁸ *The Military Balance 2013*, International Institute for Strategic Studies, London, Vol. 113, No. 1 (2013), pp. 300-301.

⁹ It is worth noting that Mirage 2000, MiG-29 and Jaguar aircraft are all undergoing exhaustive mid-life upgrades to bring them closer to the next generation capabilities. In addition, IAF’s Jaguars are also earmarked to go through a re-engining program with substantial improvement in thrust resulting in enhanced operational capabilities.

¹⁰ Even though some portion of the existing fleet having undergone upgrades recently, MiG-27s of the IAF would have already started retiring/retired in a phased manner by the end of 13th Plan. The void created by their withdrawal from service would have to be filled by increasing the number of inductions of other types such as the Rafale, LCA, etc.

In the coming years, the biggest worry for the IAF would be to somehow hold on to its present strength by matching phased retirement of the older MiG-21/MiG-27 variants with new inductions arising out of the on-going programmes. These would include 100 more Su-30 MKIs by 2017-2018, license-produced by HAL at the rate of 20 per annum. The first couple of indigenous LCA (Tejas) aircraft have been delivered to the IAF for operational evaluation with the FOC (Full Operational Clearance) slated for some

time in 2014. It is hoped that HAL will set up full-scale production of the Tejas MK I and later MK II version and start delivering these aircraft to the IAF in real earnest. In addition, it is hoped that the Rafale (winner of the MMRCA competition) contract would be signed soon with the delivery commencing in 2016. If everything goes as per the plan, the IAF's combat jet fighter force levels could go up to a figure of approximately 850 by about 2022 (the end of India's 13th Plan Period), as given in Table 3 below:

Table 3: IAF's Estimated Jet Fighter Force Levels (Around 2022)¹¹

S.No.	Type	Role	Numbers	No. of Squadrons ()
1.	Su-30 MKI	Air Dominance	270	(13) 4 th Gen+
2.	Rafale	Omni-role	126	(6) 4 th Gen+
3.	Mirage 2000	Multi-role	50+	(3) 4 th Gen
4.	MiG-29	Multi-role	60+	(3) 3 rd Gen
5.	Jaguar	Strike	150	(6-7) 3 rd Gen
6.	LCA	Multi-role	124	(6) 4 th Gen
7.	Mig-27	Ground-Attack	70	(4) 3 rd Gen
Total			850	41-42¹²

The IAF is almost at par with the PLAAF in some areas of force multipliers as both suffer in terms of inadequate numbers of AWACS/AEW&C and flight refueller systems. The PLAAF fields 5 IL-76 based AWACS systems and some antiquated Y-8 based AEW&C platforms. The IAF on the other hand has acquired three IL-76 based Falcon AWACS systems from Israel and is in the process of ordering two more. In addition, the IAF's indigenous effort to acquire an AEW&C system mounted on Embraer 145 platforms is also taking shape. The IAF has acquired six IL-78 based flight refueller systems and has also selected an Airbus

A330-based European system for acquiring six more flight refuellers. The PLAAF has been able to indigenously modify some of its Tu-16 bombers for flight refuelling tasks. It has also purchased around six IL-78 based flight refueller aircraft from Russia similar to the IAF's acquisitions. But where the PLAAF scores over the IAF is in its superiority in unmanned systems, fielding a variety of systems with different capabilities in large numbers compared to somewhat limited numbers of Israeli systems (Searcher II and Heron) operated by the IAF.

¹¹ Author's own calculation based on various media sources.

¹² The IAF needs to build its force levels to around 50 combat squadrons by 2030-2032 (IAF centenary) which should include sizable numbers of fifth gen fighters (Indo-Russian PAK-FA) and the indigenous MMCA (Medium Multi-role Combat Aircraft).

On the other hand, the IAF has also taken positive steps to improve its fixed-wing airlift and rotary-wing capabilities, measuring up well against the PLAAF. For example, induction of additional C-130J Super Hercules and C-17 Globemaster III aircraft from the U.S. would substantially increase its strategic/tactical airlift capabilities. Similarly, the IAF is addressing its weaknesses in the AD environment by acquiring indigenous Akash and Israeli Spyder Surface to Air (SAM) systems. In addition, in a joint venture with Israel, India's Defence Research and Development Organization (DRDO) is developing a Medium-Range Surface to Air (MR-SAM) system which would have an interception range in excess of 70 km.

PLAAF vs. IAF: Commonalties and Differences

Both the PLAAF and the IAF have undergone substantial changes in their doctrinal concepts in the last couple of decades. The defining moment for the Chinese armed forces (including PLAAF) came with the articulation in 2004 by President Hu Jintao of "historical missions of the armed forces for the new stage in the new century,"¹³ which was codified in the Chinese Communist Party Constitution in 2007. The new guidelines require the Chinese armed forces to secure China's strategic interests even outside its national territorial boundaries. 'Active defence' is the operational concept of China's national strategic guidelines for the new period. The PLAAF would have a leading role in China's active defence strategy. China's operational strategy is based on long-range strike and anti-access and area denial (A2AD) capabilities, which are not specific to its maritime domain and could be brought to bear over its land borders as well, with obvious implications for India.¹⁴

The IAF has also gone through metamorphic changes in its doctrinal concepts in conformity with the increasing requirements of a resurgent India. It is not coincidental that both the PLAAF and the IAF are converging on their respective goals of transforming themselves into modern strategic air forces with continental reach and all-weather precision strike capabilities and the ability to conduct air operations in highly information-intensive and network-centric scenarios.

While the doctrinal concepts of the two air forces may be on converging trajectories, the PLAAF scores over the IAF in quantitative superiority. As brought out earlier, the PLAAF has a modern fighter fleet with close to 1,700 such aircraft. They are already twice as much as what the IAF hopes to achieve in the next 10 years. In addition, China is developing J-20 and J-31, two distinctively designed 5th generation aircraft. Fortunately, India has joined up with Russia to co-develop the PAK-FA 5th generation fighter aircraft which may become available to the IAF at a time, coinciding with the indigenous Chinese 5th generation fighter inductions into the PLAAF. However, due to great disparity between the defence budgets of the two countries (in 2012: China's was \$106 billion – which could exceed \$200 billion if one counts hidden defence expenditure – vs. India's \$40 billion), quantitative differences would continue to remain in China's favour.

The second aspect of the PLAAF's superiority over the IAF lies in its ground-based air defence systems. China's sizable holdings of SAM systems such as the Russian-supplied S-300 PMU series and indigenous HQ-9/HQ-12 with engagement ranges varying from 50-150 km clearly

¹³ Jia Yong, Cao Zhi, and Li Xuanliang, "Advancing in Big Strides from a New Historical Starting Point," cited in James Mulvenon, "Chairman Hu and the PLA's 'New Historic Missions,'" *China Leadership Monitor*, No. 27, Available at: <http://media.hoover.org/sites/default/files/documents/CLM27JM.pdf>, accessed on 27 December 2012.

¹⁴ See Nathan Freier, "The Emerging Anti-Access/Area-Denial Challenge," Center for Strategic and International Studies, May 17, 2012; <http://csis.org/publication/emerging-anti-accessarea-denial-challenge>, Accessed on 27 December 2012.

overshadow the IAF's present capabilities even while the latter is trying to catch up with its newly inducted indigenous Akash and the Israeli Spyder SAMs and joint development with Israel of a 70km-range MR-SAM system. The third area of the PLAAF's superiority over the IAF lies in the realm of 'unmanned' UAV/UCAV and drone systems. China has innovatively converted more than 200 of its J-6 (MiG-19) aircraft into unmanned drone systems with a variety of roles ranging from Intelligence, Surveillance and Reconnaissance (ISR) to bombing of the enemy's ground targets. In addition, China also has a large arsenal of short/medium-range ballistic and cruise missiles which could be used against enemy targets in varying depths in enemy territory.

Despite these advantages the larger questions are, in case of a Sino-Indian conflict, how would the IAF fare against the PLAAF? And will China be able to attain air superiority over the Tibetan plateau?

PLAAF in Tibet: Limited Capabilities

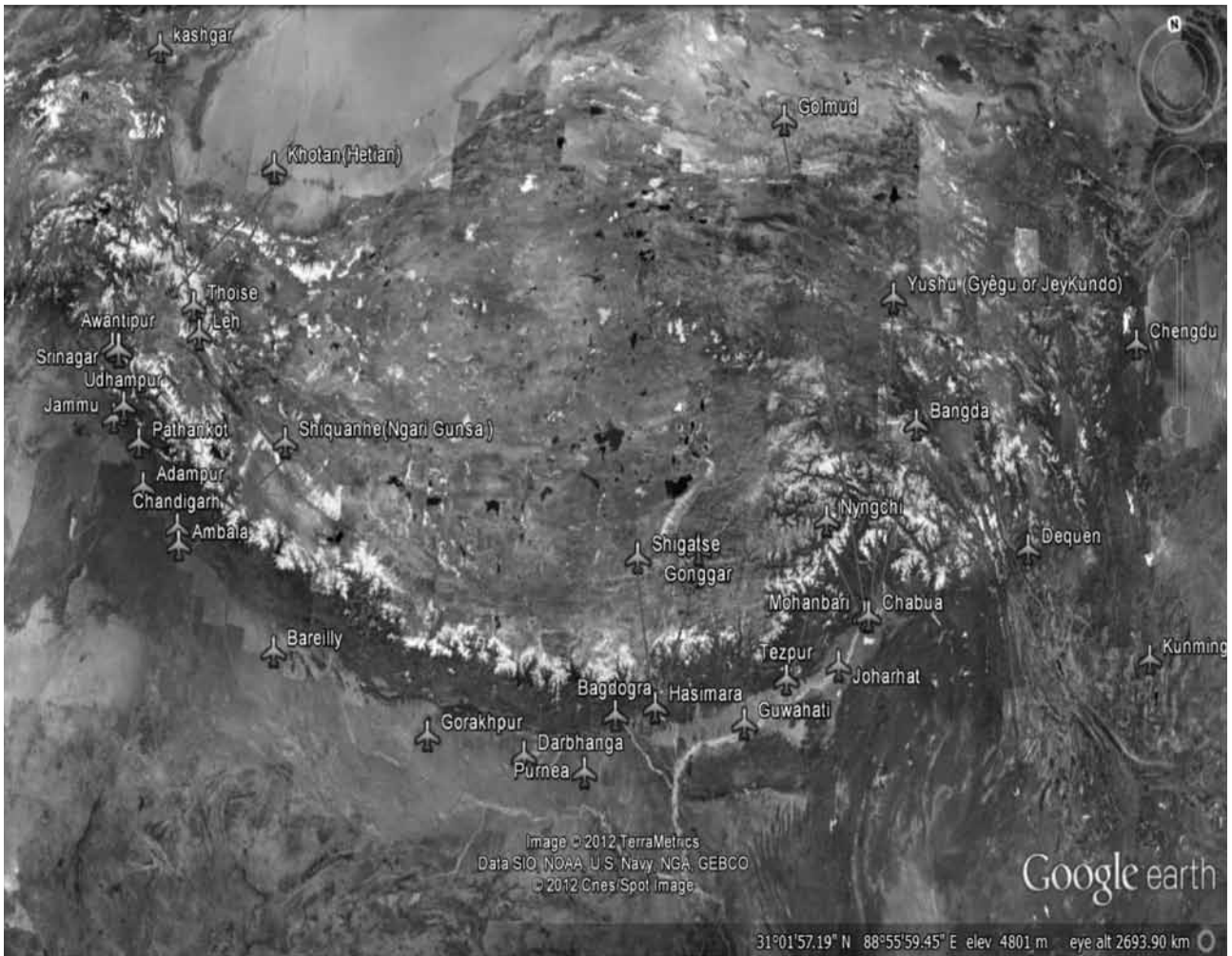
No one can deny the tremendous efforts made by China to create unprecedented infrastructural capabilities in the Tibet Autonomous Region (TAR). An almost trillion-dollar endeavour has not only resulted in the building of more than 58,000 km of world-class roads and highways, but also in creating the world's highest rail link connecting Tibet's capital Lhasa to Golmud and through it to the rest of China. In the aviation sector too, China appears to have made great strides by developing a number of airfields through the length and breadth of Tibet, the latest at Nyingchi, merely 30 km away from the Arunachal Pradesh border (See map below). China can boast of a full-fledged international airport at Lhasa, complete with what may be termed as the highest aerobridge in the world. Xigatse in the southern portion of Central Tibet is another well-

developed airfield. However, a Google-eye scrutiny of the airfields in the TAR (see images of some of them below) would reveal that while adequate runway lengths have been provided to compensate for the 'altitude factor', most airfields have only rudimentary support infrastructure, which would make it difficult for the PLAAF to carry out large-scale air operations in a sustained manner in Tibet. The PLAAF aircraft would also be handicapped in terms of payload capabilities while operating from high-altitude airfields in Tibet. Also, PLAAF does not have adequate flight-refuelling capabilities, allowing only limited number of aircraft to get airborne with full payload but partial fuel and then refuel in the air to reach distant assigned targets.

On the other hand, the IAF would have access to a greater number of airfields, with much better support facilities which it could use for air operations with full payloads against targets in the TAR (see map for comparison). In other words, even though the PLAAF may be more than double the size of the IAF in terms of its overall combat aircraft strength, in a border war with India, it may find itself at a disadvantage vis-à-vis the numbers (and reduced payloads), it can field against the IAF. Also, without adequate number of 'blast pens' (protective aircraft shelters) the PLAAF aircraft would be vulnerable to counter-air strikes by the IAF.

Figure 1 below displays the different IAF and PLAAF airfields across the Himalayas. Table 4 after that indicates the air distances between Chinese and Indian airfields. Figure 2 displays some images of Chinese airfields in Tibet. They stand out due to the lack of proper aircraft shelters. Figures 3 show some IAF airfields close to the China border. Noticeably, there are a number of aircraft shelters around these airfields, as seen in these images taken from Google Earth.

Figure 1: IAF/PLAAF Airfields in the Indo-Tibetan Region



Source: Google Earth

Table 4: Air distances between Indian and Chinese airfields

Airfields to Airfield	Distances
Srinagar to Kashgar	625 Km
Srinagar to Khotan	572 km
Leh to Kashgar	615 km
Leh to Khotan	384 Km
Leh to Shiquanhe	324 km
Ambala to Shiquanhe	363 Km
Hashimara to Shigatse	293 km
Hashimara to Gonggar	324 km
Tezpur to Nyngchi	324 Km
Chabua to Nyngchi	217 Km
Chabua to Golmud	991 Km
Chabua to Jeykundo	624 Km
Chabua to Bangda	393 Km

Source: Google Earth

Table 4 brings out that if the PLAAF was to operate from its well established bases at Khotan, Kashgar and Golmud etc., it would have to operate from much greater distances to reach the IAF airfields, adversely affecting its operational effectiveness vis-à-vis reduced payloads, possible requirement of in-flight refuelling etc., while the IAF could easily reach its airfield targets in Tibet from its main bases strung around the entire Indo-Tibetan boundary without any payload or other penalties. On the other hand, if the PLAAF brings its combat aircraft to operate from its forward airfields in Tibet, while it would certainly save on the distances as far as its reach to Indian airfields is concerned, other handicaps of payload etc. would remain owing to the fact they will have to take off from much higher airfields. Also, lack of infrastructure would also make them more vulnerable to attacks by IAF combat aircraft.

Figures 2: Some PLAAF Airfields in Tibet¹⁵



Xigatse



Gongga (Lhasa International)



Shiquane



Nyingchi



Bangda



Jeykundo

¹⁵ Notice lack of proper aircraft shelters.

Figures 3: Some IAF Airfields in Relative Closer Proximity to Tibet¹⁶



Srinagar



Leh



Ambala



Hashimara



Tezpur



Chabua

¹⁶ Notice Aircraft shelter areas marked in red. Some of these need more hardening.

CONOPS (Concept of Operations): IAF to the Fore

If China does decide to teach India another 'lesson' in Tibet, it would bank heavily on its tremendous infrastructure to mobilise massive ground forces (between 30 to 40 divisions) and support elements to overwhelm Indian defences. Due to inadequate ground infrastructure on its side, the Indian army would also have to bank heavily on the 'air' for maintenance and logistic support. Both the PLAAF and the IAF, having already achieved a certain level of modernisation (although in differing degrees) would try to achieve air dominance/air superiority by conducting DEAD/SEAD (Destruction/Suppression of Enemy Air Defences) and counter-air operations against each other. The PLA could resort to the use of its superior tactical ballistic/cruise missiles and unmanned drones with conventional warheads in these missions to offset the shortcomings of its air force. However, missiles are handicapped because of their capability of having only a single-shot. Therefore, if the IAF improves on its already existing facilities to ensure proper active/passive AD and rehabilitation capabilities at its airfields and radar sites, it could well weather the Chinese onslaught. On the other hand, it could use this very shortcoming of the PLAAF to its advantage to achieve air superiority/favourable air situation in the battle zone. Once this is achieved, the IAF could not only remove the danger of PLAAF interfering with ground operations, but also provide much needed close air support to the Indian army to help it ward off numerically much stronger Chinese ground forces. In this scenario, even a stalemate without loss of territory on either side would be tantamount to a strategic victory for India.

Conclusion

In view of the military might at China's disposal, it would be hard to convince sceptics of a military scenario envisaged in this brief but, given the PLAAF's limitations in Tibet, the possibility of such a scenario is quite real. This possibility can be further strengthened provided the IAF takes concrete steps to address some major deficiencies and build further on its existing operational capabilities. These, among many others, include creation of meaningful defences to be able to neutralise Chinese conventional ballistic/cruise missile and unmanned drone attacks and gradually building up its combat squadrons' strength. In addition, it would have to create the necessary capabilities in the cyber/information/space domains to successfully take on Chinese challenges in these forms of warfare.

China nurtures a vision of becoming a global power to be able to challenge the might of the U.S. and is preparing itself accordingly. It is estimated that China's economy will overtake that of the U.S. by 2030. Similarly, China aims to become the number one military power by 2050. It is confident that, in the process, it will be able to create the necessary capability chasm between itself and India to force the border issue in its favour. As its clout rises, so does its aggressiveness – amply reflected in its international behaviour, especially against its neighbours with whom it has border disputes.

It appears the only way to make China moderate its behaviour is for India to build on its own national power. Militarily, it cannot and need not match China 'brick-to-brick and stone-to-stone'. But it must create enough military capability to be able to manage China. Conventionally, India needs to build a 'minimum deterrence' capability by modernising and expanding the IAF—enough for China to see the futility of forcing a military solution to the Sino-Indian border dispute.

Author's Biography

Air Marshal Vinod Kumar (Jimmy) Bhatia (Ret.), a fighter pilot with approximately 5,500 flying hours to his credit, served in the Indian Air Force. A highly decorated officer, he was Assistant Chief of Air Staff (Operations) from July 1994 to June 1996 as well as Inspector General Flight Safety & Inspection. A council member of India's

oldest established United Service Institution (USI) and a Distinguished Fellow at the New Delhi-based Centre for Air Power Studies (CAPS), he writes regularly on matters related to defence and also edits a magazine dealing with military/civil aviation. He was a Visiting Fellow at RSIS in December 2012.

About the Project on Strategic Stability in the 21st Century Asia

Since June 2012, this project by the Institute of Defence and Strategic Studies (IDSS is a constituent unit of RSIS) has been engaged in identifying and analysing the key sources of strategic stability and instability in contemporary Asia. We sought to augment the prevailing understanding of how forces that stabilise Asia can be strengthened, and how forces that destabilise Asia (or have the potential for doing so) can be managed, and their adverse effects mitigated or contained.

The project addresses three key research concerns: First, examine major power relations in Asia. Second, analyse interstate dynamics within the maritime domain. And finally evaluate the impact of new and emerging military technologies in Asia. To that end, we organised three workshops during January-February 2013. We also commissioned a number of policy briefs, research papers, monographs, and edited volumes on critical security issues that have the potential to affect the security order in Asia over this decade.

The project is funded through a grant from the Chicago-based John D. and Catherine T. MacArthur Foundation.

About the S. Rajaratnam School of International Studies

The S. Rajaratnam School of International Studies (RSIS) is a professional graduate school of international affairs at the Nanyang Technological University, Singapore. RSIS' mission is to develop a community of scholars and policy analysts at the forefront of security studies and international affairs. Its core functions are research, graduate education and networking. It produces cutting-edge research on Asia Pacific Security, Multilateralism and Regionalism, Conflict Studies, Non-Traditional Security, International Political Economy, and Country and Region Studies. RSIS' activities are aimed at assisting policymakers to develop comprehensive approaches to strategic thinking on issues related to security and stability in the Asia Pacific.

For more information about RSIS, please visit www.rsis.edu.sg.



**S. RAJARATNAM SCHOOL
OF INTERNATIONAL STUDIES**
A Graduate School of Nanyang Technological University

S. Rajaratnam School of International Studies, Nanyang Technological University
Block S4, Level B4, Nanyang Avenue, Singapore 639798

TEL 65 6790 6982 | FAX 65 6793 2991 | EMAIL wwwrsis@ntu.edu.sg | WEBSITE www.rsis.edu.sg