CHINESE ACUPUNCTURE IN AN IAF-PAF FACE-OFF

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TRIO TRIBULATIONS

While war with China and simultaneous armed engagement with Pakistan was on the anvil in 1965 and 1971, various factors contributed to its absence. Chief among them was pressure by both USA and USSR in 1965 to keep China out of the fighting[1] and the time of war in the winter of 1971 which ensured that the People's Liberation Army (PLA) could not, even if it wanted to, fight across snow blocked mountain passes. As China grows in future as a world power, it might find it even more difficult to explain a conflict with India on the border issue. The intervening period is crucial especially if India's economic emergence is seen as a challenge to Chinese economic prominence.

The Chinese and Pakistani nexus against India started when Mao offered Ayub Khan nuclear weapons to neutralise India in the 1965 war.[2] Currently, China is one of the major arms suppliers to Pakistan in military hardware including aircraft and missiles.[3] China has used Pakistan to counter a rising Indian military threat by supporting it militarily and aiding its nuclear

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1. RD Pradhan, *Debacle to Revival: YB Chavan as Defence Minister, 1962-65*, (New Delhi: Orient Longman Limited, 1998), p. 89.
2. Interview with Air Cmde Jasjit Singh, February 14, 2012.
3. At http://www.cfr.org/china/china-pakistan-relations/p10070, accessed on April 26, 2012.

The current Indian Air Force (IAF)-Pakistan Air Force (PAF) force ratio appears adequate to prevail over any Pakistani air offensive but will reduce in the near future.

weapons programme.[4] From Mao's famous statement of "Teaching India a Lesson" in 1962 to presently aiding a Pakistani build up, the Chinese modus is quite clear; strategic encirclement of India by militarily supporting Pakistan.

In the past, military conflicts with Pakistan have clearly established the might of the Indian armed forces when engaged with a single adversary. However, splitting the Indian defence by threatening a two front offensive, widening the frontage would scatter given forces and thus result in smaller concentration of force than desired, thus giving rise to ineffective Indian defence. Any potent adversary would choose and concentrate his force in an area of critical Indian vulnerability to breach the resultant weaker defences and achieve its limited objectives in a local border war. Going by the Chinese strategy of achieving complete surprise, it is probable to see war commencing from an unexpected geographical or even political, economic or financial realm. China has kept the resolution of its border issues with India as a goal for future generations, keeping alive a possible volatile reason for conflict.[5] A possible "Teaching India another Lesson", only this time for trying to match-up China's emergence as a world power.

The current Indian Air Force (IAF)-Pakistan Air Force (PAF) force ratio appears adequate to prevail over any Pakistani air offensive but will reduce in the near future. In the past, the People's Liberation Army Air Force (PLAAF) had inadequate airfield infrastructure in the Tibetan Autonomous Region (TAR) and obsolete, though numerous aircraft. That is set to change as the PLAAF modernises to win a high tech local war under informationised conditions. The pace and the extent of modernisation is aimed at achieving a force structure that will ensure superiority over an adversary who is technologically better in a local border war as China extends its influence into mainland Asia. Chinese writings point to the fact that they would not

4. Ibid.
5. At http://www.rcss.org/publication/policy_paper/Policy47.pdf, accessed on April 26, 2012.

fight a major power in the near future which effectively rules out the US[6] (supporting Taiwan) and Russia which has no serious issues with China.[7] India with its long pending border resolution with China and increasing economic prowess might force China to act belligerently in the near future. The rapid modernisation of the PLAAF and the belief that air forces would lead in future confrontation point to its major role. In Chengdu and Lanzhou Military Region Air Force (MRAFs), the PLAAF assets equal 15 divisions or 80% of the present IAF force structure.[8] A realistic assessment during actual war of augmented deployment would be at least more than half of the PLAAF strength of fourth generation aircraft in these two MRAFs. Considering the total IAF strength of 34 combat sqns[9] and a major number of those deployed against the PAF, India could spare a small number against a Chinese contingency. Despite the largely third generation or more composition of such a force, the numbers would be woefully inadequate and relative capability marginal if war breaks out in 2012. Thus, the Chinese acupuncture has the ability to tilt the balance in favour of India's adversaries in a future two front confrontation; which is indeed a game changer. The combined effect of Air Launched Cruise Missiles (ALCM), a conventionally armed low CEP ballistic missiles and long range bombers apart from airborne troops by the PLAAF, none currently matched by the IAF would further skew the capability and numerical deficit in favour of the Chinese or the PAF.

The PLAAF has traditionally outnumbered the IAF in its aircraft inventory but in the past, a majority of its aircraft have been obsolete second generation fighters like F-5, F-6, Tu-2, Tu-4 and some F-7s, making the threat manageable from the Indian perspective.[10] This balance of air power between the PLAAF and the IAF persisted until 1994 or so when on

6. Roger Cliff, John Fei, Jeff Hagen, Elizabeth Hague, Eric Higginbotham, John Stillion, *Shaking the Heavens and Splitting the Earth*, (Santa Monica: RAND Corporation, 2011), p. 34.
7. At http://www.eastasiaforum.org/2009/09/03/renewed-tension-on-the-india-china-border-whos-to-blame/ accessed on April 26, 2012.
8. *International Institute of Strategic Studies*, The Military Balance 2012, (London: Oxford University Press, 2012), pp. 234-236. 15 Regt=26-27 sqn of the 32 sqn IAF; 26/32=.83
9. At http://indiatoday.intoday.in/story/the-incredible-shrinking-air-force/1/119731.html, accessed on April 26, 2012. CAG report 2011-12, p. 104.
10. Appendix 3.

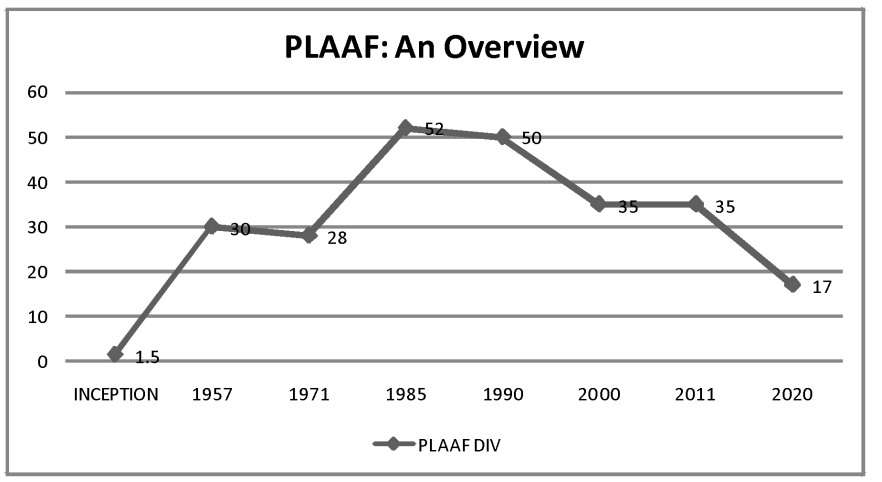
account of concerted modernisation; the largely obsolescent PLAAF combat inventory was replaced by modern capable platforms. Accordingly, the PLAAF inventory has shrunk dramatically from over 5,000 combat aircraft during the 1980s to less than half the figure with an increasing component of advanced combat aircraft like the Su-27/30, J-10, F-7MGs, JH-7/ FBC-1 and J-8II Cs.[11] The thrust towards capability replacing numbers has been clear as new technology machines replace older ones and the PLAAF transforms from territorial defence to a purely offensive future capability.[12] The induction of new multirole aircraft and the tilt away from dedicated ground attack or air defence aircraft is indicative of the thrust from numbers to capability. The proportion of advanced combat platforms in the PLAAF will keep increasing through 2015 and beyond, in addition a small complement of fifth generation J-20 fighters are also likely to join the PLAAF by 2020.[13] The end of this decade would be defining for the PLAAF as it is likely to again transform from a largely fourth generation to an emerging fifth generation capable force which is when the combination of enhanced capability and numbers would make the PLAAF a force to reckon with.

ORIGIN OF THE PLAAF

The PLAAF was formed on October 1, 1949 with a collection of 159 mixed vintage aircraft and 202 pilots.[14] This meant over six Regiments in one and a half divisions or the IAF equivalent of nine sqns to defend mainland China which area wise equals thrice the size of India. The next ten years saw PLAAF grow twenty times to around 3000 combat aircraft[15] in over a hundred Regiments due to active Soviet support under the Valentine's Day Treaty of February 14, 1950. The souring of relations between China and the USSR led to the scrapping of the treaty by 1960 and a quest for self reliance in aircraft production. Though China tried to overcome this crisis by reverse engineering and locally manufacturing MiG-15/ 17 and MiG-

11. Appendix 3.
12. n. 6, p. 33.
13. n. 8, p. 212.
14. Air Cmde RV Phadke, *People's Liberation Army Air Force (PLAAF): Shifting Air power Balance and Challenges to India's Security*, (Stanford: CISAC Stanford University, 2002), p. 3.
15. Ibid.

19s but eventually the force levels dropped slightly to 2800 aircraft in over 28 divisions as China tried to facilitate aircraft production, operations and maintenance without Soviet support.



Sources: *Military Balance 1955-2012, Air Cmde RV Phadke, People's Liberation Army Air Force(PLAAF): Shifting Air power Balance and Challenges to India's Security, SIPRI 2011, Shaking the Heavens and Splitting the Earth, (Santa Monica: RAND Corporation, Ten Pillars of the PLAAF: An Assessment. Appendix 3).*

In 1950, China used air power during the liberation of Tibet and subsequently in the Korean War and Taiwan Straits encounter in the 1950s and 60s. During the Korean War, the US Sabres achieved an outstanding exchange ratio of nearly 14 to 1 in combat with the Soviet-built MiG-15.[16] After the Soviet volte-face, Mao's disastrous Great Leap Forward caused serious problems which were exacerbated by the ten year long Cultural Revolution (CR) (1966-1976) which severely disturbed the PLAAF's new programmes in their quest for self reliance.

Chinese employment of air power has not been spectacular so far as the PLAAF was equipped for and has focused on territorial air defence. Without external assistance, the PLAAF remained largely an air defence oriented 2,500-3,000 combat aircraft air force for two decades after the Soviet's withdrew military help till subsequent refocus on the PLAAF during the

16. At http://www.strategypage.com/militaryforums/6-71391.aspx#startofcomments, accessed on April 26, 2012.

late seventies stepped up indigenous production. By the early eighties the PLAAF was equipped with 5000 aircraft with over four divisions of long range bombers.[17]The second spurt in the PLAAF force structure was in the late seventies when change in political leadership revitalised the aviation sector and indigenous production was stepped up. This period also saw the induction of heavy bombers and MiG-21s into the PLAAF. This phase was preceded by valuable lessons learnt in the war with Vietnam.

It was the re-entry of Russians in 1992-93 with fourth generation aircraft at a time when the PLAAF was seeking high technology platforms which set in motion the current modernisation of combat platforms in the PLAAF. This induction of Sukhois and AL-31F engines for the initial J-10s further accelerated the transition of the PLAAF towards a modern fourth generation air force. As technology improved, so did capability necessitating a reduction in aircraft numbers especially of older fleets like J-5 and J-6. The shift to multirole aircraft like J-10s and Su-30s of foreign and local origin resulted in a leaner, more capable force. By the beginning of this century, the PLAAF had reduced to less than half its combat fleet and inducted platforms, aimed at enhancing multirole capability and transforming PLAAF from one geared for territorial defence to one actively transforming and equipped for long range precision strikes; evolving from a defensive force to a purely offence oriented one. The current force level is a mixture of fourth generation aircraft like the Su-30, J-11 variants, J-10 and earlier generation upgraded platforms like J-8IIIC, H-6K (ALCM carrier) and some JH-7As and J-7s. The latter are likely to be phased out in favour of indigenous modern fighters like the J-10s and Su-30 variants to form a formidable fighting force by 2020 against a qualitatively better equipped adversary. In the current scenario, this could only imply Japan and India.

Probably, learning from the first Gulf War, it was decided to induct modern multirole platforms for a greater offensive role of the PLAAF. The subsequent drop in the late nineties was due to a majority of F-5, F-6 and older versions of the F-7s being phased out and replaced by fourth generation aircraft as the PLAAF started its quest towards a modern

17. Appendix 3.

fourth generation air force capable of long range precision strikes.[18] The change over from primarily air defence platforms to multirole ones saw better and lesser new aircraft replace numerous and obsolete older generation ones. The drop in the PLAAF force structure became gradual after 2005 when additional Su-30 MKKs were inducted and the J-10 went into mass production.

The Chinese firmly believe that air battlefields have become decisive battlefields and victories in air have become ultimate victories.

FUTURE PLAAF: OFFENSIVE–DEFENSIVE

The Chinese firmly believe that air battlefields have become decisive battlefields and victories in air have become ultimate victories.[19] This thinking has spread after the Chinese studied the Gulf war of 1991, Kosovo war in 1999 and the Afghan war in 2001. It was clear that attainment of war objectives is possible through the sole use of air strikes.[20] The PLAAF must build strategic capabilities to become a top air power nation. In modern local wars, this far exceeds that of nuclear weapons. The Chinese Air Force will turn largely offensive as it matches the great power status of China. Therefore, it becomes necessary to build an offensive air power so as to defend its expanding interests. The Chinese have gradually moved away from the People's war concept of Mao because People's war is defensive and aimed at trading space for time misaligned with the nature of modern war. Mao's concept relied on strategic depth to devour the enemy's military resources whereas the modern concept of striking from the sky defies notions of strategic depth and tilts towards the use of offensive air power to circumvent distances and strike deep. Therefore, even Chinese writers like Liu Yazhou consider air power as the most powerful deterrent of all time and the best tool for enforcing national will. Learning from the US, even they would send aircraft as a reaction to any incident which warrants Chinese intervention. The emphasis is to expand the PLAAF into a modern air force capable of defeating any

18. n. 6, p. 75.
19. Liu Yazhou, "The Centenary of the Air Force," Chinese Law and Government 41, no. 1 (January–February 2008), p. 17.
20. Lt Gen Liu Yazhou, *Building an Offensive and Defensive PLAAF*, p.18.

air force including advanced Asian Air Forces like those of India or Japan. This translates to emphasise on advanced fourth generation fighters and force multipliers. In force structure terms, it would mean greater capable Russian fighters like Su-30MKK, MK2, J-17, advanced western avionics and reluctance to procure less capable indigenous systems. The new PLAAF would be equipped with fourth and higher generation multirole aircraft and upgraded third generation bombers armed with ALCMs. A mixture of high to low technology i.e., imported Russian to domestic aircraft would remain in the PLAAF. In the current scenario it would mean Sukhoi variants (both Russian and Chinese) and the J-10 multirole fighter apart from few regiments of the upgraded J-8IIC multirole fighters.

The PLAAF is currently devoid of a supersonic high speed nuclear and cruise missile platform. Certain reports also point to the likely induction of the supersonic Tu-22/55 strategic Russian bomber to the PLAAF in a tit for tat buy if the IAF leases the same within the next decade but is unlikely as the option of an indigenous bomber (H-6) with ALCMs appeals more to the PLAAF. The PLAAF in future will project power from the mainland into Asia and has decided that accurate long range missiles delivered by air/ land and sea can substitute supersonic strategic bombers.[21] So it is unlikely to induct long range supersonic bombers or any such platform apart from variants of the H-6 bomber. Between aircraft, the PLAAF can opt for FC-1 and JH-7A combination or the Sukhoi and J-10 option. It is likely to choose the latter to equip the entire force in future due to limited manveourability, low performance and fixed roles of the former. The future PLAAF would be significantly smaller and only political decisions to boost export sales of the FC-1 and JH-7A would force the PLAAF in the opposite direction of having a larger but less capable fleet of aircraft. If trends are pointers then the decision to procure Russian tankers and Airborne Early Warning (AEW) aircraft i.e., IL-78 and A-50 show the way towards a smaller yet more capable high technology air force.

Depending on the necessity, China may even restrain near term acquisition of non-stealth aircraft in anticipation of more capable airframes

21. Phillip C Saunders and Erik Quam, Future Force Structure of the Chinese Air Force, *Right Sizing the People's Liberation Army: Exploring the Contours of China's Military*, Edited by Roy Kamphausen, Andrew Scobell (US DoD, Strategic Studies Institute 2007), p. 405.

being available in future. This may lead to higher induction of J-20 and the J-17 (Chinese modified Sukhoi stealth aircraft) in future.

The only deficiency in the PLAAF modernisation is the lack of exposure to advance beyond visual range tactics and modern force packaging elements. However, a large number of senior PAF pilots have been known to impart this training in PLAAF units on J-11 fighters. The PLAAF in the past has not seen spectacular success in the Korean War, Vietnam War or in the confrontation over the Taiwan Straits. This is bound to change as the PLAAF transforms itself to enter the next decade as a modern equipped and trained force.

PLAAF FORCE LEVEL

The detailed force level in 2011 as compared to the projection in 2020 of the PLAAF is as given below:

2011			**2020**	
SNo.	Type	Regt	Type	Regt
1.	Su-30 MKK	3	Su-30 Variants	7.5
2.	J-11B	1	J-11B	3
3.	Su-27	3	Su-27	3
4.	J-11	4	J-11	4
5.	JH-7/ 7A	3	JH-7/ 7A	3
6.	J-10	6	J-10	20
7.	Q-5/5D/5E	5	--	--
8.	H-5/ HJ-5	1		--
8.	H-6 H/E	6	H-6 H/E	4
9.	H-6 M/K	--	H-6 M/K	2
10.	J-7	24	--	--
11.	J-8	11	J-8III/C	4
12.	J-20	--	--	2

Source: Project 2049, Airpower Trends in NE Asia (Oriana Skylar Mastro and Mark Stokes), Military Balance 2011, SIPRI 2011, Annual Report to Congress (Military Security Developments Involving the People's Republic of China 2011), China and India, 2025 (A Comparative Analysis), US – China Military Contacts: Issues for Congress (Shirley A Kan), Analysis - China's Airpower: The Sleeping Giant Awakens (Carlo Kopp), PLA Air Force (Richard D Fisher Jr), Shaking the Heavens and Splitting the Earth: RAND. China's Air Force Modernisation, Phillip Saunders and Erik Quam.

The force projection by the PLAAF in 2020 would comprise 1600[22] combat aircrafts out of which all the fighter fleet would be fourth generation or more. The Sukhoi/ J-11 fleet would increase to 450 aircraft[23] and the largest increment would be in the indigenous J-10 combat assets some variants of which (at least 100) fly with the Full Authority Digital Engine (FADEC) and thrust vectored AL-31FN M1 engines.[24] Undoubtedly, the Q-5 would be phased out as would the J-7. The J-10/ Su-30MK2 would replace these ground attack aircraft. PLAAF operates a number of H-6 series (Tu-16) bombers some of which are being modified and manufactured for enhanced ALCM carriage and range. The modifications extend to avionics upgrade, increased range due additional fuel capacity in the internal bomb bay of 9000kg and provision to carry four ALCMs by the H-6M variant to an engine upgrade with D-30 (IL-76) engines, six ALCMs, glass cockpit for the H-6K series. 25 aircraft of each kind are expected to enter service in the near future with the YJ-10 ALCM which has strike range of 2200 km.[25] The current J-7 strength to be replaced is 24 Regiments and considering the capability jump and quantitative reduction would mean requirement of 18 to 19 J-10 sqns in the PLAAF. It would be logical to replace numerous J-7 units with an appropriate number of indigenously manufactured fourth generation aircraft to keep up the induction rate, cost and dependability of spares. The H-5 could be replaced by H-6 versions as bomber trainers. 100 J-8IIIC would continue in the PLAAF after upgrades to their avionics and Zhuk MS Phazatron radar (of Su-30 lineage). By 2016-17, the Chinese fifth generation stealth aircraft J-20 would have joined the PLAAF. Catering for a rather low production rate of this ultra modern fighter, it is expected that two or three regiments would be available to the PLAAF by 2020 with numbers likely to grow in future. The likelihood of a stealth version of the Su-30 called J-17 joining the PLAAF is highly probable as China modernises its

22. The anticipated 52 Divisions @ 24 to 40 combat aircraft each would amount to 1250 to 2080 aircraft or an average of 1600 aircraft at current manning level of a Regiment.
23. Richard D Fisher, Jr, *PLA Air Force Equipment Trends*, RAND, p. 144.
24. Ibid, Janes All the World's Aircraft 2011-2012, p. 92-96.
25. n. 6, pp. 205-206.

fleet of fourth generation fighters to nearly fifth or 4++ standards using technology developed for the J-20. The J-17 has advanced stealth features like internal weapons bay, S-shaped intakes, canted fins, advanced wave reducing technology in the intakes. Future Chinese versions of the Sukhoi family would be configured with more active stealth features, enhancing the capability of this fourth generation fighter towards higher levels.

Presently, the PLAAF comprises over 67 Regiments and the number of aircraft totals roughly 1600 or at best 2680 aircraft.

Presently, the PLAAF comprises over 67 Regiments and the number of aircraft totals roughly 1600 or at best 2680 aircraft (depending whether a force level of 24 or 40 aircraft are taken per sqn). The median value is around 2100 aircraft[26] and this fleet comprises less than a quarter fourth generation aircraft today. Relating to the IAF structure, a division is made of two to three Regiments or equivalent of four to six IAF sqn whereas a Regiment with 24-40 aircraft has slightly more assets than a fighter wing. Thus, the PLAAF in 26 divisions has the equivalent of 104-153 (136 approx) IAF sqns and in South western China bordering India around 15 Regiments in almost five Divisions[27] (or the equivalent of over 26 IAF sqns are deployed). As per present figures of 26 divisions having 67 Regiments[28], the current regimental strength may be safely assumed at 2.6 Regiments per division.[29] However, the phasing out of old technology aircraft would reduce the total numbers to approximately 52-53 Regiments in 17 divisions comprising between 1250 – 2080 combat aircraft or an average of around 1650 combat aircraft. To aid in quick comparison with IAF force levels, this equals around 92 (or between 69 – 115 sqns) IAF equivalent sqn in 2020.

The PLAAF currently has 42 air defence and 25 offensive Regiments which point to a greater defensive capability, satisfying the traditional

26. In IAF equivalent strength it equals 115 combat sqns.
27. *International Institute of Strategic Studies*, The Military Balance 2011, (London: Oxford University Press, 2011), pp. 234 -236.
28. n. 27, pp. 234-236.
29. 67 Regiment/26 Division=2.6 Regiment per Division.

PLAAF mandate of territorial defence.[30] With focus on enhanced offensive capability in future, high technology multirole aircraft are likely to increase in the PLAAF in place of earlier generation air defence aircraft. The PLAAF would reduce in size like all modern air forces and improve offensive and defensive capability using modern aircraft as a mix of the high and low end of new technology aircraft; much like the USAF did when it optimised using F-15 and F-16 in the past and as it now wants to achieve using F-22 Raptors and F-35 JSFs as a operationally healthy and cost effective mix of high and low end of modern technology without capability trade-offs. The PLAAF is on the path to incorporate advanced Russian fighters like Su-30 variants in the top of the high technology spectrum and J-10s in the low end of the spectrum.

From a purely defensive air force in the 1990s entrusted with territorial defence to the now modernising force capable of offensive and defensive operations, the PLAAF strategy has altered to incorporate a largely offensive element along with territorial defence. The present high technology offensive component comprises modern multirole platforms like Su-30MKK, J-11B and J-10 whereas H-6, Q-5 and the JH-7A form part of the earlier generation offensive platforms. Only the Su-27 and J-11 comprise the modern air defence component, whereas, the J-7 and some versions of the J-8 comprise earlier generation air defence elements. At present, the MRAF deployment of concern to us has fighter aircraft of mixed types.

30. Appendix 1.

CURRENT INDIA SPECIFIC PLAAF DEPLOYMENT

PLAAF Regiments in Neighbouring MRAFs

SNo.	Chengdu MRAF(7 Regt[31])	Regt	Lanzhou (8 Regt)	Regt
1	J-11	1	J-11	1
2	J-10	1	J-8H	1
3	J-7 E/	4	J-7/E/G	4
4	H-5	1	H-6 M/H	2

31. n. 27, p. 234-236. Appendix 2.

Though, it is only Xizang province in Chengdu MRAF which adjoins India and South Western Xinjiang in Lanzhou MRAF which borders India in the N/ NE, the deployment in both MRAF's is considered while in a possible confrontation with India. The current PLAAF deployment in the MRAF's adjoining India i.e., Chengdu and Lanzhou totals 15 Regiments. This gives the weight of the air force available against a standoff with the IAF. It has been assumed here that any threat emanating from the Vietnam sector would be countered by forces in neighbouring Guangzhou MRAF. Therefore, in total without altering existing deployment, the PLAAF can face up India with a minimum of 15 Regiments in almost five divisions or 460 combat aircraft. Incidentally, this is today more than 75% of the size of the IAF.

CURRENTLY DEPLOYED PLAAF OFFENSIVE AND DEFENSIVE CAPABILITY AGAINST THE IAF: 2011

Offensive

2011 (Deployed)			**Augmented for War**	
SNo.	Type	Regt	Type	**Regt**
1.	Su-30 MKK	--	Su-30 Variants	2
2.	J-11B	1	J-11B	2
6.	J-10	1	J-10	4
8.	H-6 H/E/ H-5	3	H-6 H/E	
9.	H-6 M/K		H-6 M/K	3
Total		**5**		**11**

Defensive Capability

2011			**Likely in War**	
SNo.	Type	Regt	**Type**	**Regt**
1.	Su-27/ J-11	1	Su-27/ J-11	2
2.	J-8	1	J-8IIC	2
	J-7	8		
Total		**10**		**4**

Therefore, the deployed assets are mostly defensive in the region against the IAF. The Chinese are doctrinally known to use their best (high technology) assets in an area of conflict. With the emphasis on long range

precision strikes and offensive capability to ensure command of the air at least in the area of operation, the likelihood of an altered deployment by shifting fourth generation air assets to critical areas (against India) from adjoining MRAF's to ensure superiority in capability and numbers over what the IAF would field in its two front contingency. This means that two Su-30 MKK Regiment, three J-10 Regiments and one each J-11B, H-6K and J-8IIC Regiment would be withdrawn from other lesser critical MRAF's in war to counter an Indian contingency by the Chinese. This limited seven Regiment augmentation would be a little above 10% of the PLAAF strength and replaced by eight regiments of older J-7s and H-5 Regiment available in Chengdu and Lanzhou. The PLAAF in the altered deployment is likely to oppose the IAF with 11 offensive and four air defence Regiments.

So while the deployed strength is defensive in nature, the augmented forces likely to be used in war would be majorly offensive. This force of 15 Regiments equals 26 IAF sqns.[32] The Chinese could surge a greater number of regiments if the situation turns critical to 17 Regiments or 30 IAF sqn equivalent.

DEPLOYED PLAAF OFFENSIVE AND DEFENSIVE CAPABILITY AGAINST THE IAF: 2020

The dominance of fourth generation combat aircraft in the PLAAF arsenal deployed against India is clear. The likely scenario after augmentation from various MRAF's is also projected and shows the possible maximum PLAAF strength which may be spared against the IAF in 2020.

2020			**Deployed Likely**	
S No.	Type	Regt	**Type**	**Regt**
1.	Su-30 MKK	2	Su-30 Variants	3
2.	J-11/ J-11B	2	J-11B	3
3.	J-10	6	J-10	7
4.	H-6 M/K	2	H-6 M/K	3
5.		--	J-20	1

32. A Regiment has between 24 to 40 aircraft or 32 aircraft as a median, so 15 Regiments= 11x 32=468 aircraft which @ 18 aircraft per sqn=26 sqn (approx).

The IAF future build up is derived from current vintage and planned future procurements. It would drop to 31 sqns between 2012-17 and increase to a maximum of 40 sqns by 2020 subject to Rafale's finalisation by 2013 and induction by timeline of the Light Combat Aircraft) LCA.[33]

As is quite evident, by 2020 the PLAAF would have no dedicated air defence fighters for defensive duties but modern multirole aircraft. Though, the deployment in our area of interest is 15 Regiments in 2012, it is likely to reduce to 12 Regiments by 2020 which considering the IAF's force levels are sufficient. In case of escalating hostilities and increasing need, it may even go up as other MRAF's would augment force levels in the conflict zone. It is only a predicted approximate catering for at least five additional augmented Regiments, a very small percentage of the PLAAF. This 17 Regiment surge totals 30 IAF sqns and is considered the maximum which the PLAAF can field without compromising on the existing threat scenario in the East and the North. It is expected that the existing Su-27/ J-11 aircraft at Yinchuan and Baishiyi would be modified indigenously to J-11B multirole standards. Out of the eight J-7 Regiments, around six would be equipped with J-10s. The decrease in the future total PLAAF structure is from 67 Regiment to 53 Regiment which is a 23% reduction in numbers and so is the reduction in Chengdu and Lanzhou MRAFs from 15 to 12 Regiments.

THE PRESENT NUMBER GAME

In a two front scenario in the event of confrontation with Pakistan, the force ratio is likely to decrease for the IAF in the West, much to Pakistan's advantage. From the existing 1.4: 1 to an equal balance, if forces are redeployed to balance the threat from the PLAAF in the North and East. Deployment of less than a quarter of its combat sqns in the East against Chinese intervention would eliminate even the marginal superiority of numbers which the IAF

33. At http://news.oneindia.in/2009/02/18/iaf-to-have-42-fighter-squadrons-by-2022-antony.html. At http://www.thehindu.com/news/national/article3297800.ece accessed on April 25, 2012. The current induction plan is for 42 sqns by the end of the 13th plan in 2022 and 35 sqns by the 12th plan in 2017. But the Vice Chief of the Indian Air Force told the Parliamentary Standing Committee on Defence on April 09, 2012 that the force level by 2017 would be four sqns short of the earlier projected at 31 combat sqns.

enjoys in the West.[34]Depending on the extent of threat facing the IAF in the East; if the need arises to augment greater numbers in the face of higher PLAAF aircraft, the resultant combat strength of the IAF could then swing the force balance in PAF's favour, completely to India's disadvantage.

The IAF may have to confront two adversaries, Pakistan and China, who will deploy more than 800 combat aircraft.

In numerical terms, the IAF may have to confront two adversaries, Pakistan and China, who will deploy more than 800 combat aircraft (450 PAF[35] and 460 PLAAF[36] = 910 aircraft or 24 PAF + 26 PLAAF = 50 sqn) against India which at present levels exceed the IAF's current arsenal by 16 sqns. Although Indian superiority over Pakistan's air power in capability will continue in the foreseeable future, however the scale of superiority of the IAF will diminish as capability and relative numbers of the PAF improve till 2016. China poses a greater challenge. Not only is the IAF poised to lose forever its traditional numerical superiority in advanced combat aircraft, this segment of the PLAAF alone is likely to exceed the size of the entire IAF by 2020.[37] When the larger transformation of the Chinese military is taken into account, the situation becomes serious indeed.

FORCE DEFICIT: IAF VS PAF + PLAAF

The PAF is made up of 22 combat sqns.[38]While the PAF traditionally has been equipped with 16 aircraft per sqn, the situation may not be the same now with a large number of Mirage-III, F-16 and JF-17 sqns equipped over the traditional PAF unit aircraft strength of 16 aircraft per sqn. Therefore, it may be more accurate to consider an equivalent sqn force derived from the total number of aircraft. The PAF has 453 combat aircraft and at the rate of 18 aircraft per sqn amounts to the combat potential of 25 equivalent sqns of the

34. Against 24-25 PAF combat sqns, India has a total of 32 sqns resulting in a force ratio of 1.28: 1. Removing even seven-eight sqns or less than a quarter of the force leaves the West equally balanced in numbers.
35. n. 8, p. 273.
36. 15 Regiments equal 468 aircraft @ average of 32 aircraft per sqn. (24 to 40 aircraft)
37. At http://www.thehindu.com/news/national/article3297800.ece accessed on April 25, 2012. n.23.
38. At http://indiatoday.intoday.in/story/the-incredible-shrinking-air-force/1/119731.html, accessed on April 26, 2012. n.27.

IAF but catering for reserve strength of 5%, the effective fighting potential of the PAF is 24 combat sqns. A quick comparison of the IAF force levels in a two front war brings out the likely force deficit. Against Pakistan which would field all its 24 sqn equivalents against India, an almost equal deployment would leave a balance of ten sqns against China following a purely aircraft type matched counter deployment to hold-off the PAF. This is the best anti-PLAAF deployment after catering for the barest minimum combat force to stem a PAF advance without considering any quantitative edge.

Though, the total IAF structure caters for 34 combat sqns as per Indian and western open sources[39]; if the actual force level is lower, it will deplete the force available further for an Eastern contingency against China. Alternatively, the choice is to fight the western front with an unfavourable force balance in the air as we have never done in the past. On the whole, it would be fair to comment that at the moment, the IAF has adequate numbers to counter a threat by the PAF only.

The IAF response to the PLAAF may improve after 2016-2017. The IAF is likely to be 40 sqn strong by 2020 but the PAF would have expanded to 26 sqns and as it happened in 1971 and before, could get augmented with combat aircraft flown in from China at short notice if the need so arises.[40]The available combat sqns of IAF fighters deployed for a PLAAF contingency in 2020 would increase to 14 sqns for an eastern contingency after a balancing deployment to safeguard against an expanding PAF. These 14 sqns would comprise Su-30s, Rafales and the LCA. Unfortunately, it would be lesser than the PLAAF's current deployment of 15 Regiments (26 IAF sqn equivalents) and the future augmented deployment of 17 Regiments (30 sqn equivalents).

The actual game changers would be the additional force of one or more Regiment of fifth generation J-20s and numerous Regiments of J-17 stealth Sukhois included which would transform the air battle beyond the scope

39. n. 8. CAG Report 2011-12, p. 104.
40. China gave Pakistan 60 F-6 after the 1971 war at no cost. During the 1965 war, it agreed to supply warplanes and other supplies at short notice when Asghar Khan visited Beijing in September 1965. *The Story of the Pakistan Air Force: A Saga of Courage and Honour*, (Lahore: Shaheen Foundation, 1988), p.114. M Asghar Khan, *The First Round Indo-Pakistan War 1965*, (Ghaziabad: Vikas Publishing House, 1979), pp. 39-40.

of fourth generation IAF opposition. This is where in future; the force ratio aspect would get irrelevant in the face of superior and unmatched fifth generation capability which the IAF would not be able to counter in numbers or capability in the near future, though by some reports the Prospective Airborne Complex of Frontline Aviation (PAKFA) is expected to join the IAF 2017.[41] A timeline of early mid next decade would appear plausible considering that the aircraft is still in the developmental stage and substantial numbers with Hindustan Aeronautics Limited (HAL) aided local production could stretch timeframes. The FGFA (twin seater) would need redesigning and configuration changes from the T-50 PAKFA which would commence once the single seat version is production ready. By that time the PLAAF would have consolidated and trained on the J-20 for five to six years and on the J-17 for more than a decade.

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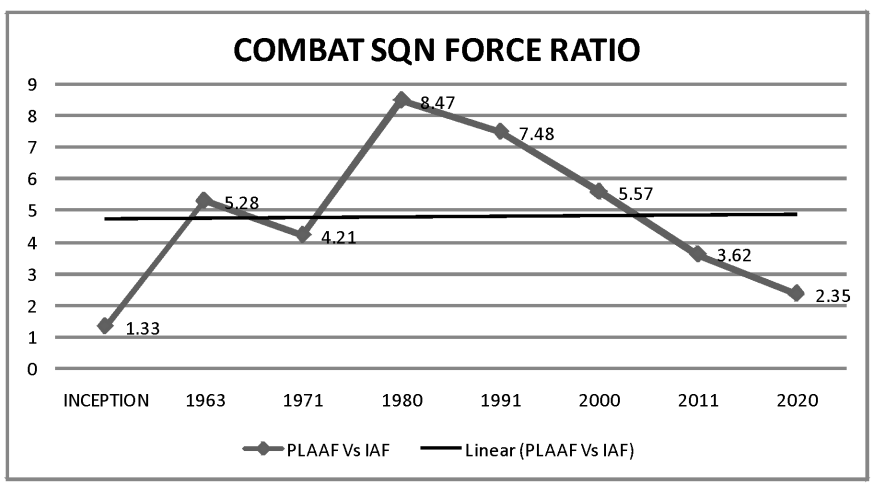

The true picture appears when the IAF-PLAAF combat force ratio is considered. It was a meagre 1.33 when both air forces were formed and

41. At http://indrus.in/articles/2011/12/19/fgfa_what_sort_of_plane_is_it_14029.html, accessed on April 26, 2012.

grew to above 5: 1 when the Chinese went to war against India in 1962. Interestingly, there was a drop when India and Pakistan fought the liberation war in 1971 but that was because of the IAF buildup to counter the PAF war machine. The large scale production and expansion of the PLAAF, planned in the late seventies saw the force ratio peak at over eight to one. The subsequent transition to a modern high tech fighting force has negated the need for a higher number of older generation aircraft and is being replaced by lesser number of more capable platforms. As the PLAAF transforms totally to modern high tech aircraft and the IAF builds to 40 sqns by 2020, the numbers of the Chinese Air Force would further decrease but still maintain an overall force ratio of over 2.35: 1 with the IAF. This also defines the extent of surge capacity available with the PLAAF. This would mean the IAF facing an entirely transformed modern high tech force with a majority of fourth generation aircraft and emerging fifth generation capability. Though limited in numbers by 2020, this would be invaluable in potential against the IAF which would still be in the process of expansion and induction of largely fourth generation aircraft against the emerging Chinese fifth generation capability.

TWO AGAINST ONE: COMBINED FORCE

Simultaneous confrontation on both the Eastern and Western fronts would mean, facing combined assault by both the PAF and the PLAAF. In pure numerical terms, this would mean an opposition greater than any faced by the IAF both in numbers and capability. China-Pakistan military encirclement of India would mean a simultaneous threat by 26 PLAAF sqns and 24 PAF sqns adding to a faceoff with almost 50 combat sqns in 2011-12. As a consequence, the IAF now finds itself in an adverse combined numerical force ratio of 1.47: 1.[42] The IAF plan to build numbers and capability is limited to 42 sqns by 2022.[43] Also, if we consider the Chinese capability at 30 equivalent sqns or 17 Regiments against India in 2020, the force level facing the IAF is 56 combat sqns. This is assuming a perfectly balanced force ratio on the Western border which we have never considered adequate. But if we maintain the same superior force ratio against

42. 50 combined sqns against 34 IAF sqns, i.e., 50/34=1.47.
43. CAG report 2011-12, http://articles.timesofindia.indiatimes.com/2009-02-18/india/28011953_1_squadrons-force-multipliers-iaf.

the PAF as we possess in a single front contingency which currently is 1.4: 1,[44] it would mean strength of 36 sqns in the West against Pakistan leaving a balance of only six sqns for a simultaneous Eastern contingency. The PAF may receive four-five sqn equivalent combat force from China in the event of facing shortage in numbers.[45]This happened in 1971 (96 F-6 from China and three sqn combat fighters i.e., F-86E, F-104 from Iran, Jordan and Syria) just before hostilities commenced to augment the PAF force structure. So maintaining a superior force ratio with the PAF is a necessity. Such an augmentation in 2020 would increase the total PAF-PLAAF combine to 66 combat sqns i.e., 30 sqns (against the PLAAF) and 36 sqns (against the PAF) at a force ratio of 1.4: 1 by 2020[46]. This clearly shows that even in 2020, the force ratio is the same as in 2012 at 1.4: 1. As given in the CAG report of 2012, the IAF force level would drop to 31 combat sqns in the 12th Plan, raising the force ratio in favour of our adversaries to 1.6: 1 in 2016 but this would be temporary as fresh inductions commence. This means increase in numbers for the IAF to counter 56 sqns while maintaining an equal force balance across both fronts and 66 sqns while maintaining a superior force ratio of 1.4: 1 vis a vis the PAF in 2020. So the IAF finally needs a 54 sqn air force[47] to balance a combined Chinese and Pakistani threat in 2020 as a minimum and 66 combat sqn force to guarantee an adequate balancing response to China and winning response to the PAF in a two front air offensive in the coming decade. Any delay or lower deviation would result in the IAF having neither an upper hand in capability nor numbers.

SUMMARY

The expansion of the IAF, post 1962 was aimed at securing India from future threats from Pakistan and China independently. But generally the buildup of the IAF subsequent and even before that was mainly PAF centric. The PLAAF of the sixties and seventies was mainly air defence oriented with a small complement of light bombers like Tu-2, Tu-4 and IL-28 bombers.

44. 34 IAF sqn/ 24 PAF sqn=1.41.
45. Interview with Air Cmde Jasjit Singh on April 24, 2012.
46. 66 combined sqns/ 40 PAF sqns= 1.4
47. Considering either a minimum 11 Regiment PLAAF deployment or a 15 Regiment deployment of already stationed PLAAF assets in South Western China.

The airfield infrastructure in areas adjoining India was primitive and the penalty of taking-off from high elevation airfields imposed severe payload restrictions on bombers making air offensives from neighbouring areas a remote possibility. The change occurred as the PLAAF started looking to alter strategy after the lessons of the war with Vietnam in 1979. Subsequently, learning from wars fought by the Western nations, the PLAAF outlook gradually altered to offensive strategy from a primarily territorial based air defence. This prompted a deliberate change to multirole aircraft and emphasis on long range precision strikes extending Chinese influence into mainland Asia. Though, the PLAAF is still in the process of transition, the tilt in focus and capability build up is a cause for concern for India. The Pakistan-China combine has been up against India since the early sixties. This partnership has grown in all spheres aimed towards a common foe-India. Therefore, it is in Indian national interests to expect and prepare for a combined PAF-PLAAF threat in future confrontation with either Pakistan or China. The prominence in building air forces of both countries is indicative of the likely dominant role they would play in tomorrow's war. The IAF war fighting capability presently is limited to just 34 combat sqns against 24 equivalent sqns of the PAF and 15 Regiments of the PLAAF (26 IAF sqn capable) in Chengdu and Lanzhou. The added threat of the full PLAAF machinery behind this force is overpowering. The current force deficit against China is one-third the combat sqns when the Western front against the PAF is equally balanced. Switching numbers and types between fronts would still make no difference to the overall asymmetry which stands at 1.4: 1 against the IAF in 2012 and would remain same even in 2020 if the current rate of aircraft induction and phasing out is followed by the IAF, PAF and PLAAF. The need is to augment the existing IAF establishment to a 54 sqn air force to minimally balance the emerging PAF threat by 2020. This figure rises to 66 combat sqns to balance an augmented PLAAF force of 17 Regiments in Chengdu – Lanzhou MRAFs while maintaining current force asymmetry of 1.4: 1 with the PAF in the next decade. Capability flows from numbers and the need is to build sufficient force levels to possess the capability to counter the adversaries in a two front scenario for India.

The IAF is in the process of expansion and building qualitatively and quantitatively. History has caught us having to fight in the same process of expansion and consolidation in 1965 and hopefully it does not again.

APPENDIX 1

Total PLAAF Offensive and Defensive Capability

Offensive	
Su-30 MKK/ J-11B:	4 Regt
J-10:	6 Regt
Q-5	5 Regt
JH-7A	3 Regt
H-6	6 Regt
H-5	1 Regt

Total offensive	25 Regt
Defensive	
Su-27/ J-11	7
J-7	24
J-8	11
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	42 Regt

Source: *Military Balance 2011 and 2012*.

APPENDIX 2

Current PLAAF Deployment
Chengdu MRAF (Total Deployment: 7 Regt)
J-11: 1 Regt (Chongqing Baishiyi Air Base)
J-10: 1 Regt
J-7: 3 Regt (Chinese version of the MiG-21 with enhanced thrust and WP 7B engine)
J-7E: 1 Regt (Upgraded version of the J-7 with an up rated engine, advanced avionics, enhanced wing area, four wing stations, PL-8(Python-3) AAM included.
H-5: 1 Regt (Training bomber with the PLAAF)

Lanzhou MRAF (Total Deployment: 8+ Regt)
J-11: 1 Regt (Yinchuan AFB)
J-7: 1 Regt
J-7E: 2 Regt
J-7G: 1 Regt (Upgraded F-7E with new radar, HUD, IFF)
J-8H: 1 Regt (Multirole J-8 B capable of max external stores of 4.5 t, KLJ-1 radar, anti-radiation missiles and modern avionics.
H-6M: 1 Regt (Chinese version of the Tu-16 capable of carrying four ALCMs and additional 9000 kg fuel.
H-6H: 1 Regt (2 x ALCM carrier platform)

Source: *Military Balance 2011 and 2012. SIPRI 2011.*

APPENDIX 3

PLAAF AT A GLANCE

Sl No.	Year	Acquisitions	Div/ Sqn Equivalent	Nos
1.	1949		1.5/ 8.5	152
2.	1959		30/ 167	3000
3.	1962	M-15, 17, 19,IL-28		3000
4.	1963		20/ 111	2000
5.	1967		25/ 139	2500
6.	1967-68	150 IL-28	16	2500
7.	1971-72	30 Tu-16, 12 Tu-4, 150 IL-28, 1700 M-19, 800 M-19	28/ 156	2800

8.	1973-74	300 F-9	13	3800
9.	1975-76	60 Tu-16, 12 Tu-4, 300 IL-28, 100 Tu-2, 200 M-15, 1500 M-17, 1500 M-19, 50 M-21	38/ 211	3800
10.	1976-77		23	3800
11.	1978-79		23	5000
12.	1980-81		52/ 288	5200
13.	1981-82		29	5300
14.	1982-83	4000 Ftrs, 280 F-7, 580 H-5	23	5300
15.	1983-84	1 DIV= 3 REGT	25	5300
16.	1984-85		27.5	5300
18.	1985-86		53/ 294	5300
19.	1986-87		27	5300
20.	1987-88		27	5300
21.	1988-89		27	6000
22.	1989-90			5000
23.	1991-92	24 F-6 out, F-7PG in 2002	50/ 277	5000
24.	1992-93		20	5000
25.	1993-94		22	5000
26.	1994-97		22+	5000
27.	1995-96		50/ 277	5000
27.	1997-98	H-6 110	23	3740
28.	1998-99	120 H-6, 200 H-5, 400 Q-5, 1800 J-6, 500 J-7, 150 J-8, 46 Su-27	23	3566
29.	1999-2000		35/ 195	3520
30.	2000-01			3000
	2001-02			2900
	2002-05			2300
	2004-05	72 ac/ div	32/ 128	2300
	2005-07	32 Div		2643
	2009	82 H-6, 1136 J-7,8, 84 J-10, 116 J-11, 73 Su-30, 18 J-11B, 72 JH-7, 120 Q-5		1653
	2010			1617
	2011	144 J-10	26/ 116	2080
	2015		23/ 108	1885
	2020	25-35 J-20	21/ 94	1690

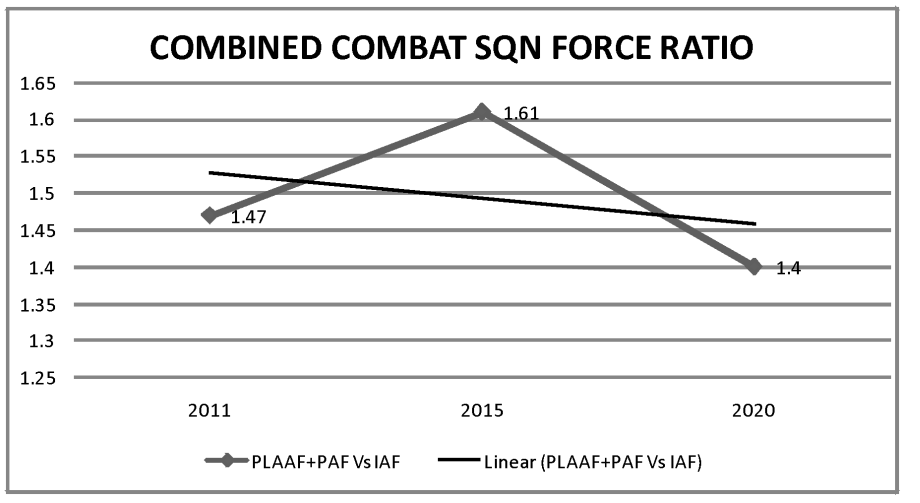
*UE @ 18 combat aircraft per sqn

Source: *Military Balance 1961-2012, Jane's All the World's Aircraft 2006-07, SIPRI 1971-2011. Air Cmde RV Phadke, People's Liberation Army Air Force (PLAAF): Shifting Air power Balance and Challenges to India's Security.*

Indian Vulnerabilities
Airfields
Platforms
Numbers
Industrial Back up

Maintaining one on one parity with the PAF and the PLAAF, the IAF needs 10 additional sqns totaling 42 combat sqns (32 existing plus 10) to balance a possible PLAAF intervention in a faceoff with Pakistan in 2011-12. However, if we need to maintain existing force asymmetry with the PAF, then the requirement would be to enhance IAF force levels by 20 combat sqns from the present declared state to 52 combat sqns to balance conventional combat air power with the PLAAF.[48]This figure would increase to 24 combat sqns and 56 combat sqns if the IAF wants to maintain the same force superiority of 1.2: 1 across both fronts.

The Chinese are known to use superior force doctrinally to gain command of the air and affect maximum attrition in the initial phase of war.



48. 32 IAF sqns deployed against PAF and additional 20 sqns to combat a PLAAF threat.