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Growing Muscle of PLAAF

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About the Author



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“Let her sleep, for when she wakes up she will shake the world”

Napoleon Bonaparte -1803¹

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Steady Growth. Although some signs of a somewhat waning economy are now visible in China (economic growth rate sliding down from 10.5% in 2010 to 7.4% in 2014) she has experienced a steady growth cycle for the past two decades, catapulting the country as the world’s second largest economy. Starting with a GDP of USD 214 billion at the beginning of its economic reforms programme in 1978, it now boasts of a GDP of USD 9.2 Trillion; a feat achieved in a matter of just 35 years².

Growing Muscle. In keeping with the trend and the Nation’s high-growth trajectory, the People’s Liberation Army (PLA), People’s Liberation Army Air Force (PLAAF) and People’s Liberation Navy (PLAN) have also followed a steady growth profile. Suffice to say, that its annual military expenditure for 2014 (808.23 Bn Yuan or 131.57 Bn USD) makes it the second largest in the world only behind US (575 Bn USD). By the way, these are official figures; the unofficial estimates are a way higher (SIPRI 166.1 Bn USD).³

This Paper highlights the growth story of the PLAAF over the years and what may be required to counter the air threat posed by it today, and in the foreseeable future.

Paradigm Transformation. Little over two decades ago (around 1990-91), PLAAF was an antiquated Service, equipped almost exclusively with weapons based on 1950-era Soviet designs⁴. While today, as per an expert opinion, PLAAF is more operationally able than any time in its past and it is enjoying the fruits of years of sustained reform and modernisation⁵. How such a

¹<http://www.chinahistoryforum.com>.

²<http://www.focus-economics.com>.

³<http://www.en.m.wikipedia.org>.

⁴www.airforce-magazine.com/magzinearchive/.../0212china.aspx.

⁵ Richard Halloran, “A Revolution For China’s Air Force”, USAF Air Force Magazine Feb 2012.pp 43

transformation has taken place in mere two decades+ is an incredible story which can be best demystified by unfolding the modernisation process in terms of each factor that constitutes the overall air-punch. An attempt follows at succeeding paragraphs.

Legacy Platforms

Baby Steps. Right from its birth in 1949, the PLAAF built its backbone on Soviet lineage of aircrafts. A humble beginning of a mere 159 mixed vintage aircrafts (remnants of civil war), steadily grew into some 3000+ fleet in the fifties, largely provided by the Soviet Union, based on the Treaty of Friendship, Alliance and Mutual Assistance signed in 1950 between the two countries⁶. Though, the inventory further swelled to about 5000 aircrafts by 1999-2000, it didn't raise much hackles in the West, as about 3000 of these numbers were known to be second generation fighters (like F-6, J-8, Q-5, JH-7/A etc.).

Early Developments. Though the modernisation drive related to the induction of American Fire control System in the F-82 Development Programme began as early as 1985, under the Peace Pearl Programme (USD 502 Billion Project)⁷, the actual up gradation of the legacy machines still leaned heavily on Russia with the acquisition of 76 x SU-30 MKK's from 2000-2003 in three batches and up gradation of 24 x SU-30 MK 2. This technological enablement led to the start of production of the indigenous J-10 and J-11 (licensed version of the Russian SU-27) fighter from around 2002. In a matter of just about a decade and a half, their numbers in the PLAAF have swelled to formidable figures (J 10 240+, J11 205+)⁸. Alongside these machines, came a systematic enhancement of the air-tanker and strategic air lift capability through modification of old H-6 bomber fleet and purchase of IL-76 and IL-78 ex Russia.

Effect of Doctrinal Shift Over Time.⁹ Ever since China's incursion into Vietnam in 1979, PLA doctrine has evolved from Mao's 'People's War' to 'People's War under Modern Conditions' through a 'Limited/ Local War' phase to the current doctrine of 'Active Defence' (*Jiji Fangyur*). This doctrine is more

⁶ en.wikipedia.org/wiki/people's-liberation-army-air force

⁷ www.globalsecurity.org/military/library/report/1991/plaaf.appl.htm

⁸ <http://www.en.m.wikipedia.org> list-of-active-People's-Liberation-Army- Aircraft

⁹ Gurmeet Kanwal, "China's Military Modernisation and Emerging Doctrine; Implication for India ", CLAWS publication Feb 2012

assertive and is not bound by any restrictions to limit future conflict to within China's natural boundaries - a clear shift from 'People War' strategy of luring the enemy deep into China's territory. The doctrine of 'Active Defence', which seeks to conduct local wars under high technological conditions (*gaojishutiojianxia de jubuzhanzheng*) calls for integrated deep strikes and concentration of superior firepower to destroy opponent's retaliatory capabilities through pre-emptive strikes. This pro-active doctrine essentially seeks to take the battle into enemy territory. On 26 May 2015 Chinese Ministry of National defence released its first public Chinese Military Strategy Paper outlining a new policy of "active defense".¹⁰ Essentially dealing with PLA Navy, the doctrine sticks to winning local wars under informatized conditions'. It also refocuses the PLAAF mission from territorial air defence to both defence and offence and to build an air space defence force structure that can meet the requirement of informationized operations¹¹.

One of the fall-outs of the above doctrine on the PLAAF transformation was cutting it to size. In the period 2000-2003, it decommissioned some 850 obsolete aircrafts (Harbin H5, J-5 Fighters, Nanchang Q-5 Combat aircraft) in a phased and a time-bound manner. Resultantly, its aircraft arsenal shrank initially from around 5000 to 3400 and then to approximately 2600 – a drive to make the PLAAF, a lean and a mean organisation.

Likely Future PLAAF Inventory. Taking pride in flying the first prototype of its latest Stealth Fighter (J-20) in Jan 2011, ostentatiously at a time, when the US Secretary of Defence, Mr Robert Gates was in Beijing, the PLAAF is steadily modernising. Predictions on future PLAAF fleet indicate that it will consist of large quantities of Chengdu J-10 and Shenyang J-11 as mainstay platforms and JH-7A as the PLAAF's backbone precision strike fighter. The stealth fighter J-20 which had its first flight on 11 Jan 2011 is likely to enter PLAAF around 2018.^{12,13} The mainframe of future transport fleet is likely to be anchored around Y-9 medium range transport aircraft duly supported by the IL fleet. The attack helicopter fleet is likely to be populated by WZ-10, WZ-9 and Z-11 AH. The AWACS/AEW fleet is likely to have refined variants of KJ2000

¹⁰ <http://news.usni.org>>Aviation > Document; China's Military Strategy- USNI News

¹¹ <http://www.thediplomat.com>. China to embrace new active defence strategy

¹² <http://en.m.wikipedia.org> Chengdu J 20

¹³ <http://www.popsci.com> stealthier stealth? seventh-upgraded-chinese-stealth fighter-rolled-out-last-week (open source post-dated Sep 16 2015)

and KJ200 and a reported 50 (unconfirmed) numbers of similar platforms are likely to be imported from Russia. According to the Janes International Defence Review, the Aviation Industry Corporation of China (AVIC) has perhaps six developmental combat aircraft programmes underway. These include the significantly enhanced Chengdu J-10B multirole fighter, Shenyang J-11B5 heavyweight strike fighter, Shenyang J-15 carrier-borne fighter and Chengdu J-20 fifth generation fighter demonstrator. There is at least one more fifth generation fighter project yet to be publically reported. Besides this, continuing enhancement of the current frontline types, such as the Xian JH 7A and H-6 bomber family is also in progress¹⁴.

‘Start Big’ Concept. In contrast to the conventional wisdom of starting small and building big, the Chinese believe in ‘starting big’. The best example of this is the COMAC C919 narrow body twin-engine jet airliner programme. The long term goal of this venture is to break Airbus and Boeing’s duo-play and compete against Airbus A320. While C919 is expected to do first flight in 2016 and introduction in 2019, further down the line, are slated C929 and C 939 twin engine, twin aisle 300/400 seaters¹⁵. A similar spirit of ‘starting big’ runs as a knitting thread in the thought process of Active Defence Doctrine, in PLAAF modernisation programmes, in refining air attack strategies and building state-of-the-art arsenal.

Some Inputs on Chinese UAVs. Besides the existing inventory of UAVs (Xianglong, WZ-9, Yi Long, CH-3, Anjian etc.) some additional inputs are as under:-

A Sharp Contrast¹⁶. The methodical and the well-structured way in which China has set out to modernise its manned aircraft sector contrasts sharply with its approach, thus far, to the unmanned platforms. Chinese UAV industry is vast and seemingly unregulated with a large No of small start-up companies and a bewildering array of new products.

Innovations Galore. Chinese UAV experiments have shown impressive levels of innovation by building and flying air vehicles of every conceivable design and genre. These include stealthy UAVs, morphing

¹⁴ IHS Janes’ International Defence Review, vol-45, Feb 2012.pp 45

¹⁵ <http://en.m.wikipedia.org> comac C919

¹⁶ www.sinodefenceforum.com/.../chinese-uav-ucav-development.40.3

UAVs, annular wing VTOL design micro-UAVs, unmanned airships, flying wings, modified light aircraft and sailplanes, UFO-style flying discs and even ornithopters (utilising flapping wings). Innovators, both professionals as well as, greenhorns/debutants, have been allowed to run free and explore almost every UAV configuration. A good example of this came during Sep 2011, when AVIC sponsored a nationwide event called the International UAV Innovation Grand Prix (UAVGP). This international event saw many entrants, both professionals, as well as, amateurs to exhibit their skills. The spirit has not been allowed to dampen as 2015 saw the third iteration of the same event that unfolded firstly as an Aerospace Carnival (13-16 Aug 15) and later as a Grand Prix event - UAVGP 3 (29 Oct - 01 Nov 15)^{17, 18},

Emerging Ideas-Emerging Designs. Events like UAVGP provide ideal platforms from where emerges a fountainhead of ideas. Some innovative designs included rotary UAVs, supersonic, super manoeuvrable and low observable future platforms for air-to-air missions, models of forward-swept wing, twin tailed, single engine, canard equipped aircrafts, jet engine UAVs (WJ-600 of AVIC)...the innovation story of Chinese UAV is counting. Two other features are very visible in Chinese UAV development, namely, arming of the UAVs and equipping them with enabling sensor payloads.

Arming the UAVs. China has followed a logical process in arming its UAVs by first adapting existing air-to-surface weapons and then developing purpose-built small light weight munitions. In each case, the weapons involved are relatively new. Weapon-vehicle matching has been thoughtful. Some examples:-¹⁹

Wing-Loong. AVIC's Wing Loong is a well-established armed UAV. It has been matched with the laser-guided HJ-10, a hellfire class of anti-tank weapon.

CH3 UAV. The CH3 UAV of China Aerospace Science and Industry Corporation (CASIC) carries an Anti-Radiation Missile

¹⁷ <http://www.csaa.org.cn>fujian>the international UAV Grand Prix>

¹⁸ <http://www.en.m.uavgp.com.cn>html>sjgg>

¹⁹ <http://www.dailymail.co.UK/news/.../china-building-array-unmanned military-drones>

(ARM) and an Air-to-Surface Missile (ASM) - with a Semi-Active Laser (SAL) seeker, suitable for low-to-med Close Air Support (CAS) missions. Some inertial/GPS (INS/GPS) guided munitions have also been produced for CH3. 20xCH3 UAVs are planned to be sold to Pakistan. Another UAV weapon being developed by CASIC is TB-1. It is an ASM, featuring an armour-piercing shaped-charged blast/fragmentation warhead with a SAL Seeker.

Other Weapon Developments. Luoyang Opto-electric Engineering Company (LOEC) is also developing new UAV class of weapons. In 2010 LOEC displayed an entirely new type of small precision weapon in the form of small diameter standoff laser-guided glide bombs (50-100 kg class) combining a dual guidance sys (SAL with INS/GPS).

Sensor Payloads. LOEC and AVIC are in the forefront of missionising the UAVs through building a wide spectrum of Electro-optical payloads in the form of attachable turrets. These feature dual day/night sensors and medium range Forward Looking InfraRed (FLIR) (YY-8). Other areas of future development are IR array sys, fielding of UAV-sized radar payloads, small Ku band Synthetic Aperture Radars (SARs), real time image processing techniques etc. There is also an ongoing effort to interface existing earth stations with satellite communication stations providing seamless connectivity and data-sharing.

Smart/ Intelligent/Precision Weapons. Besides the conventional payloads, the PLAAF is also emphatically present in the field of smart, intelligent and precision ammunition with surgical strike capability. Way back in 2007, China developed a powered smart bomb (KD-88) having an IR TV guidance sys. The estimated range is about 110 km with a capability to hit small targets²⁰. The other state-of-the-art arsenal in use are the supersonic Russian and Chinese made ARMs (KH 31P, YJ-91) for operational use with SU-30, JH 7A and J-11 attacks, laser-guided and satellite-guided bombs (on board Q-5 aircraft). As of 2011, PLAAF, reportedly had more than 200 aircrafts capable of carrying PGMs²¹. This number is steadily increasing. It is now estimated that almost all

²⁰ www.strategy page.com/htm/ht air w/20070516.aspx

²¹ Roger Cliff, John Fei, Jeff Hagen . " Shaking the Heaven and Splitting the Earth' Chinese Air Force

the modern aircrafts of PLAAF today are capable of carrying the PGMs. One assessment puts the PLAAF numbers as - Fighters/interceptors 1060, Strike aircrafts 1300, attack Helicopters 200)²²

Doctrinal Shift in PLAAF

Envisioning a Proactive Role for PLAAF²³. Chinese realise that since an all out global conflict may be unlikely, there must be a capability to ensure quick victory in localised wars (Local War Doctrine). The role of PLAAF is considered to be vital in such a scenario. The PLAAF has a ‘Rapid Reaction Strategy’ which includes the possibility of pre-emptive first strike and offensive air operations. The Chinese have also outlined a ‘War Zone Concept’ wherein it is looking at a strategy to ensure dominance of the complete War Zone. For PLAAF, it implies striking first with a strong punch. This is seen as a shift in the trending pattern in PLAAF which erstwhile had a predominantly defensive bias.

Changing Trending Pattern in PLAAF Role.²⁴ The salient points of the changing trending pattern of PLAAF are summarised below:-

Key Point Defence. The erstwhile concept of ‘key point defence’ is waning while that of ‘large area defence’ is growing. Given the PLAAF’s previous focus on defending cities, industry and bases, this is perhaps the biggest change in Chinese thinking. The forward edge of the battle must be pushed towards the enemy.

Mobile Air Defence. Gradually, the fixed defences are giving way to mobile air defences which implies the ability to shoot-and-scoot, especially, when up against a more powerful reconnaissance and attack threat. As per this thought process, mobility can plug holes in air defences and allows forces to mass and gain favourable conditions for own forces.

²² Indian Defence Review Vol 30.4 (Oct-Dec 15)

²³ Air Marshal M Matheswaran, AVSM, VM, Ph.D, “Role of PLAAF in Chinese Regional Strategy” Lecture: PLA Air force, IIT Madaraschina studies centre
<http://www.csc.iitm.ac.in>

²⁴www.timawa.net/forum/index.php?topic=30309.0

Offensive Air Defence. As stated in the pro-active approach, the earlier protective air defences are giving way to offensive air defence driven by more effective offensive operations. This strategy calls for reliance on integrated attack and defence in which the offence mounts more attack on targets, keeping a strong air defence punch ready to take on the opponent's counter attacks. The bias of the operations is to maintain an offensive posture, forcing the enemy into a reactive mode and ultimately seizing operational initiative.

Information.... Flowing out from its policy of accelerating military informationisation, this trend is based on the belief that information is a core component of strength and information superiority must be incorporated into the entire course of air defence campaign.

Unification. Another trend in the PLAAF doctrine points towards the unification of air and space defences requiring integrated command and control based on the understanding that whoever controls the space, controls the planet.

Joint Operations. In air defence parlance, joint operations will call for building synergy between the ground-based, shore-based, sea-based and air-based assets, across the entire spectrum of the conduct of air defence battle by knitting and co-coordinating the sensor, shooter and battle management capabilities across Service domains.

Defence Budget on Rise Defying Slowing Economy.²⁵ Open sources have it that despite slowing economy, the Chinese defence budget in 2015 has shown an year-on-year increase of 10% (889 billion Yuan or 142 billion USD) as compared with 2014. Though it compares unfavourably with the year-on-year increase of 12.2% in 2014 and 10.7% in 2013.²⁶

Likely Gains to Air and Air Defence Components The likely gains (acquisition/development) in the field air and air defence include S-300PMU/SA-10, S-300 PMU-1/SA-30 Russian built AD Missiles, as well as, the indigenous HQ9 SAMs designed for defence of vital facilities against main

²⁵<http://www.reuters.com-article-us-china-parity>

²⁶<http://www.southasiaanalysis.org/china's-defence-budget-2015-beyond-official-explanations>

strikes by aircrafts, cruise missiles, tactical and theatre ballistic missiles and other air attack weapons over a full range of altitude and speeds in a hostile ECM environment. Production of 4th Generation aircrafts (SU-27/J-11 and SU-30 variants), as well as, the indigenous J-10 will be expedited. Acquisition and development of long range UAVs and its cannibalized version are also likely to get a boost. In addition, China is likely to continue to invest heavily in J-20 stealth fighters and on the qualitative development in avionics and futuristic jet engines. As to strategic mobility, the Y-20, four-engined, 50 ton payload aircraft is already under development. It had its first flight on 26 Jan 2013.^{27,28}

Core Missions of PLAAF. As per an expert opinion, Chinese thinking has evolved into three core missions for PLAAF. The first core mission is to defend China's airspace - particularly Beijing - HQ of the Communist Party of China and the Seat of Govt. Out of the seven Military Regions (MRs) (reportedly being reorganised into five new "Strategic Zones" alongside the regrouping of Army's four HQs)²⁹, Beijing takes top priority followed closely by Shenyang Military District (MD) in NE China bordering Russia, the Sea of Japan and North Korea. The second core mission is prepare for an assault on Taiwan, a task assigned to Nanjing MD. The newest and the third core mission is to acquire the capability to project power into South China Sea³⁰.

Likely Unfolding of the PLAAF Campaign. A RAND analysis paper carries comprehensive factual and analytical details on the likely unfolding of the air battle by PLAAF in consonance with core missions described above. Some facts related to PLAAF operations as extracted from the above document are as under³¹ :-

- (a) **Information Offensive.** A typical air campaign will start with an information offensive which would entail cyber network attacks, electronic deception, electronic interference and firepower destruction.
- (b) **Penetration of Enemy Air Defences.** Alongside the information offensive, penetration of enemy air defences would be initiated. This

²⁷ [http:// www.indiandefencereview.co](http://www.indiandefencereview.co). Rise of the PLAAF: Implications for India

²⁸ [http:// en.m.wikipedia.org/xian-y-20](http://en.m.wikipedia.org/xian-y-20)

²⁹ [http://www.scmp.com/news/china>article pla-to-announce overhaul-five strategic zones will replace regional -commands](http://www.scmp.com/news/china/article_pla-to-announce_overhaul-five_strategic_zones_will_replace_regional_commands)

³⁰ 7ibid pp-47

³¹ 20 ibid.

would include attacks by conventional ballistic missiles of the Second Artillery Force. The likely targets will be assets on air bases in Counter Air Operation (CAO) mode, AD command, control and Control and Reporting (C&R) nodes, Surface to air Missile (SAM) sites and Electro Magnetic (EM) emitters. While long range Surface to Surface Missiles (SSMs) like the DF11/CSS-7, DF-15/CSS-6, etc will be the likely arsenal, PLAAF is also likely to use penetrating sub-munitions against runways and unitary warheads or warheads with blast sub-munitions against air defence command, control and C&R nodes.

Suppressions of AD (SEAD) Means. The above will also be accompanied in an unpredictable time pattern/sequence by manned aircraft and cruise missile attacks. The primary goal of such attacks is likely to be electronic interference and suppression (EW & SEAD). Likely arsenal could be radar-guided AAMs, supersonic ARMs (KH-31P, Y-7-91 etc) launched from aircraft platforms like SU-30, JH-7A or multirole J-11 or ground launched ARMs (ARM version of DH-10). The likely targets in EW/SEAD domain will be EW sites that may be still operational, SAMs, radars and EM emitters. Every attempt will be made to suppress/destroy AD C&R Nodes and other BMC2 systems that have escaped destruction till this phase of attack. Besides DH-10 cruise missiles, H6 Bomber could launch YJ-63 class of Air Launched Cruise Missiles (ALCM), front-line aircrafts (J-8, JH-7, SU-30, J-11, Q-5) could launch laser-guided (KAB 500L/KAB 1500L/LT-2 indigenous) and satellite-guided bombs.

Offensive Air Campaign. Seamlessly, during the currency of EW and SEAD phase, PLAAF is likely to embark upon an offensive air campaign to seize air superiority/ favourable air situation/local favourable air situation. Besides the AD assets, EW sites, command control and communication facilities, SAM and fighter aircraft bases which have been continuously targeted in earlier phases as well, would also be addressed. Other targets in this phase could include SSM batteries and other residual assets related to the opponent's capability to conduct air or missile operations. While these targets and more will continuously be kept non-operational, the major PLAAF punch with aircrafts, ballistic

and cruise missiles is now likely to shift to other targets like the seat of power, prestigious targets of political value, economic targets, water and electric installations, core-sector targets like oil dumps/refineries and civilian targets etc. Once the favourable air situation is achieved, the air offensive campaign is likely to graduate to air blockade campaign and strikes on naval bases and naval forces at sea.

The Implication of 'Likely'. It goes without saying that given the inherent flexibility in the prosecution of the air threat, the above likely visualisation is just one of the several options. That said, while the execution pattern may vary Commander to Commander and situation to situation, the broad pattern is likely to be on the lines visualised above.

Chinese Build up in TAR (Tibet Autonomous Region) / Xizang Autonomous Region

Significance. While the likely unfolding of the PLAAF air campaign as covered above, presents a macro picture, what is of special relevance is the build up and growing capability of PLAAF in the TAR. As per an expert opinion, though China's primary focus is on Taiwan, South China Sea and West Pacific where its strategic objective is to reduce, if not eliminate, US influence, the capability build up in the Tibet region achieves the dual aim of addressing India, as well as, ensuring economic development of the region that will eventually aid in dwarfing/diluting the Tibetan resistance.³² Reference India, the build up is aimed at gaining a capability of rapid deployment of forces in an eventuality besides an abiding power projection across the border. Some points of factual details and analysis thereof are as under:-

Out of the seven MRs of China only two are opposite India. Lanzhou MR is opposite Ladakh Sector, Chengdu is off India's NE. Chengdu MR has two MDs; Yunan opposite Myanmar and Xizang opposite Assam, Sikkim and Arunachal Pradesh. In Lanzhou MR, South Xinjiang MD is opposite Uttarakhand, HP and Ladakh while East Xinjiang MD is opposite Ladakh.

³² <http://deccanherald.com/china-s-tibet-build-up>

Chengdu Military Region Air Force (MRAF) is one of the seven MRAFs under the PLAAF. It is responsible for the air defence of Chinese South West Region

It is assessed that the Chengdu MR, PLAAF has two fighters divisions (33rd and 44th Div) and an Airlift Division (4th), The MRAF includes J 10 (one regiment), SU 27 UBK (one regiment), J7B (two regiments), besides aerial tankers (IL 78), MI 17 V7 helicopters and J-6, J-7, and SU-30 aircrafts^{33,34}.

In the adjoining Lanzhou MR, there are two fighter (6,37) and one Bomber Divisions³⁵. The fighter aircrafts known to be in this MR include J-6, J-7G, J-7II, J-81, J-8F and J-11. The Bomber div has H6 bomber besides others³⁶.

As to the PLAAF operations from TAR, there has been a steady rise). In 2010 the PLAAF operations from TAR were just about 4-6 aircraft detachments in good weather conditions. This increased to about 6-8 aircraft detachments in 2011 operating from two airfields. This continued rising in 2012 when PLAAF carried out weapon firing trials at high altitude for the first time in an integrated exercise. In 2014 this presence showed an exponential rise with PLAAF flying around 1400-1460 sorties (a 300% jump-year-on-year).³⁷

Latest reports indicate an almost a year-round presence of J10, J11 and SU-27 aircrafts in TAR either on deployment or exercises. In Nov-Dec 2014 a total of 32 J-10 aircrafts were positioned for the first time in TAR at Lhasa and Hoping airfields.³⁸

In essence therefore, TAR, which spans both the above two MRs has a might of PLAAF front-line air power.

³³ <http://www.claws.in/chengdu-military-region>

³⁴ <http://en.wikipedia.org/wiki/chengdu-mil-region>

³⁵ http://www.globalsecurity.org>lanzhou-maafc_lanzhou-military-area-airforce-command

^{36,33} <http://en.wikipedia.org/wiki/People's-liberation-army-airforce.pp.4>

³⁷ 30 *ibid*

³⁸ <http://www.refdiff.com/beware!-china's-military-games-in-Ladakh>

Other reports indicate that the regiments of the second Artillery deployed in the Tibetan Plateau regularly conduct 'live fire' exercises. In July 2015, a regiment conducted live fire exercise with 'new artillery guns' at heights between 3700-4800 m.

Apart from a nuclear missile base in Qinghai province which clearly targets India, China has built five fully operational air bases [Gongar, Pangta, Linchi, Hoping and Gar Gunsa) and an exclusive rail network and over 58000 kms of roads in TAR³⁹. It is reported that in 2015, another full-fledged air base at Kashgar located 600 Km north of Srinagar has been operationalised. It is assessed that with the above infrastructure at its call, PLA can amass upward of two divisions at their launch pads along the border in just 20 days compared to over 90 days it took earlier.

The limitations of high altitude operations with combat aircrafts of yesteryears stands diluted to a large extent with the induction of modern aircrafts of the likes of SU 27 and J10. To add to this, are the other 'enablers' like air-to-air-refuellers, Airborne Early Warning (AEW) aircrafts and a strong ground based air defence and Ballistic Missile Defence (BMD) cover centred around S-300/400 and a hierarchy of Short, Medium and Long Range SAMs.

PLAAF's acquisition of force multipliers like air-to-air re-fuellers (H6U/DU Air Refuelling Tanker, IL 78 M Midas Air Refuelling Tanker) and tankers with strategic air lift capability indicate the strategy of strike aircrafts taking off with a combination of minimum fuel and maximum weapon load to be air refuelled in airborne mode. This will provide the SU-27s and J-11 a capability to strike deep inside Indian territory.

According to a research analysis report by the Delhi Policy Group, China's vast networks of Highways in TAR stands out prominently giving her the advantage of a quick build up and sustenance thereafter. Most prominent lifelines, built assiduously are Sichuan-Tibet Highway, Qinghai-Tibet Highway, Lhasa-Xinjiang Highway and the Yunnan Tibet Highway⁴⁰.

³⁹ articles. times of India. indiatimes.com/2011-03-08/india/28668105-1-airbases-sukhoi-sqns-

⁴⁰ <http://www.delhipolicygroup.com/china-s-infrastructure-build-up-TAR...>

As to the rail network, the nodal Qinghai-Tibet 1142 Km major project completed way back in 2006, at a staggering 34 billion Yuan, along with several others lines completed /or in the pipeline (Lines connecting Lhasa, the capital of TAR with Shigatse bordering Sikkim, with Nyingchi in SE Tibet bordering India, with Yatung a trading town 30 km from Indian border at the mouth of Chumbi valley and with Linzhi 70 km from Indian border) provide her the capability of swift movement of troops and material in the time of need.

PLAAF has stocked a large No of Non-Line-of-Sight Battlefield Support Missiles (NSOS-BSMs) at Xinjiang and Aksai chin for possible use in CAO missions against Airfields and Advance Landing Grounds across the Line of Actual Control.

For interdiction operations on the supply lines of India's forward deployed ground forces in both Eastern Ladakh, HP and Uttrakhand, the PLAAF is likely to employ a combination of massed fire assaults from heavy calibre MBRLS along with Battlefield Air interdiction (BAI) sorties employing SU-30 Mk-2 and J-10 aircrafts, duly supported by AEW platforms.

In order to rehearse above contingencies, adequate training is being carried out regularly. In recent past, a joint expeditionary Army-AF live firing exercise took place in Jul-Aug 2010 at Qinghai-Tibet Plateau (15,420 ft). The same exercise was repeated in 2011 dubbed as Integrated Joint Operations (IJO) with elements from Chengdu and Lanzhou MR. This time, besides other aircrafts, SU27SK, SU27UBK also participated. A variety of arsenal was tried out in the above said exercises, like 122 mm S-13, 266 mm S-25 ASRs, P-11 Beyond Visual Range Missiles, P-8 Missiles, LT-2 Laser Guided Bombs etc.⁴¹From Aug 2014 onwards, J11 and SU 27 ex Lanzhou MR have been conducting 'combat confrontation' exercises in 'low meteorological conditions'. Also a regiment of J11 commenced night combat training from Aug 2015.⁴²

⁴¹<http://trusted-trident.blogspot.in/2012/03/taking-stock-of-china's-airpower-build-up-in-tibet>.

⁴²35 ibid

While the analysis of a response to the Chinese capabilities across the entire spectrum of its capabilities is beyond the scope of this paper, following capabilities integrated across Service domains will be required to put up a viable counter to the air threat posed by PLAAF now and in the foreseeable future:-

Capability to carry out effective surveillance of the TAR region with sensor efforts integrated across ground/shore/space mediums resulting in a comprehensive air situation picture. The above calls for identifying surveillance gaps and putting in place a tri-service Plan to plug the same. A very tall order indeed.

Providing a seamless Air Defence Battle Management System with near real time data transmission capability, anchored on satellite media with due redundancy. The system must integrate the highest BMC2 Nodes to air and air defence combat means cutting across Service boundaries

Wherewithal and capability to carry out all weather CAO, interdiction and Counter Surface Force Operations (CSFO) across the border both in pro-active/pre-emptive, as well as, retaliatory mode.

Building a degree of survivability in air defence command, control and communication centres both electronically, as well as, through equipment redundancy.

Building an integrated family of ground, air and shore-based Air Defence Weapon Systems to ensure continuous and successive punishment to the air threat right through its ingress into own territory.

For ground based air defence, the above capability must result in the following:-

- Modernised and technologically-enabled gun-missile means to cover the entire range-height spectrum from LRSAM to MRSAM to SRSAM down to terminal weapons along with their sensors and associated support systems
- Capability to take on contemporary, as well as, futuristic threat from PLAAF including stand-off threat and the threat from smart/intelligent weapons and PGMs.

- Futuristic kill capability in the form of directed energy weapons (laser to start with).
- Capability of soft kill in Ground Based AD Weapons Systems (GBADWS) through integration of ESM and ECM muscle.
- Fielding a counter for stealth aircrafts, ARMs and cruise missiles.
- Building BMD capabilities at the national level to take on the threat of SSMs.

As the third largest air force in the world and with a generous injection of capital for capability building, year-on-year, the PLAAF, as stated earlier, is more operationally capable than any time in its past. Gone are its days of obsolete inventory, poor training and outdated doctrine, today it is on a steady path of growth. Probably we need to revisit the dictum of the former Chinese premier Zhou En Lai.

‘Watch what we do, Not what we say’

About the VIVEKANANDA INTERNATIONAL FOUNDATION

The Vivekananda International Foundation is an independent non- partisan institution that conducts research and analysis on domestic and international issues, and offers a platform for dialogue and conflict resolution. Some of India's leading practitioners from the fields of security, military, diplomacy, government, academia and media fields have come together to generate ideas and stimulate action on national security issues.

The defining feature of VIF lies in its provision of core institutional support which enables the organization to be flexible in its approach and proactive in changing circumstances, with a long-term focus on India's strategic, developmental and civilisational interests. The VIF aims to channelize fresh insights and decades of experience harnessed from its faculty into fostering actionable ideas for the nation's stakeholders.

Since its establishment, VIF has successfully embarked on quality research and scholarship in an effort to highlight issues in governance and strengthen national security. This is being actualized through numerous activities like seminars, round tables, interactive-dialogues, Vimarsh (public discourse), conferences and briefings. The publications of the VIF form the lasting deliverables of the organisation's aspiration to impact on the prevailing discourse on issues concerning India's national interest.



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