Seminar Report

CHINA'S MILITARY MODERNISATION

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EXECUTIVE SUMMARY

- The Central Military Commission (CMC), the People's Liberation Army (PLA) and the Theatre Command (TC) system have been reformed after Xi Jinping assumed chairmanship of the CMC. The powers of the CMC have been strengthened and a leaner, horizontal structure has been created.
- After downsizing of the PLA, only two corps will form part of the recently created Western Theatre Command – the 76th and 77th, in Baoji in Shaanxi province and Chongqing respectively.
- A modern fleet is one that not only has multi-mission surface competence. Today, 65 percent of China's destroyers and frigates are modern ones. By 2020, this figure is set to rise to 85 percent. In China, there has been an increase in overall tonnage, an excellent indicator of blue water capability.
- China's current efforts to monopolise the three global commons – sea, space and cyber space – will put India at a huge disadvantage in a full spectrum conflict.
- The People's Liberation Army Air Force (PLAAF) has a combat aircraft strength of 2,100 aircraft out of which 600 are 4th Generation fighters. The PLAAF will also acquire 24 Su-35s from Russia by 2018. The technological advantage that the Indian Air Force (IAF) possessed is now being eroded, with the Chinese acquisition of the Su-35 from Russia and the J-20 stealth aircraft.
- With the present state of airfield infrastructure in Tibet, the PLAAF does not have the capability to achieve air superiority against the IAF.
- The PLA Second Artillery has been upgraded to a full Service as the (PLARF). Since the late 2000s, the newer generation long range missiles have been coming into service. These include the Transport Erector Launcher (TEL)-based DF-31 and 31-A missiles, Multiple

Independent Reentry Vehicle (MIRV) DF-5B and C, and tests for the DF-41. China fields a variety of long range conventional Intermediate Range Ballistic Missiles (IRBMs) and Land Attack Cruise Missiles (LACMs) such as the DF-21D Anti-Submarine Ballistic Missile (ASBM) and DF-26 for Anti-Access (A2)/Anti-Denial (AD).

- The Chinese war strategy relies heavily on the deterrent effect of the PLARF. China has only a thin Ballistic Missile Defence (BMD) defensive shield. This can be effective against India, though not against the US.
- The PLA Strategic Support Force (PLASSF) will form the core of China's informationised war force. It will be an important factor in integrating the existing military systems and services, and acting as an information umbrella. Information warfare, combined with cyber warfare, will give China asymmetric capabilities in the future.
- The priority of the PLASSF is to protect the country's financial security and the security of people's lives. This implies that this force will not only be used domestically but also extra-territorially.

Introduction

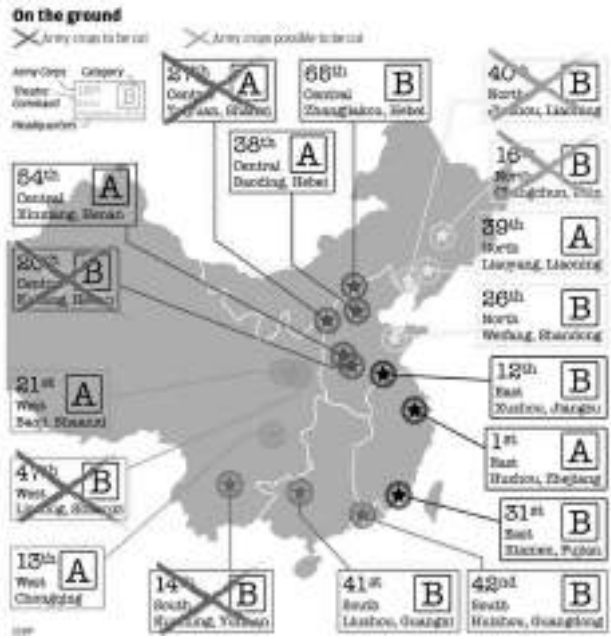
PLA force modernisation plans are linked with the Chinese dream of becoming a great power by 2049. The nation's interim aim is to enhance regional preeminence. This is linked to the plans for economic preeminence of the Belt and Road Initiative. In order to achieve these goals, China has invested heavily in power projection, increasing the range in which its military can operate by increasing its global footprint, for instance, building bases in Djibouti and Gwadar. Despite the expansion of its area of operations, China's primary focus remains the Taiwan contingency and the need to dominate the first island chain through creating counter-intervention capabilities. It has been investing in operations relating to cyber, space and the electromagnetic spectrum to dominate the first island chain. Another central aim remains maintaining the Chinese Communist Party's (CPC's) authority over the PLA. The 2015 Strategy White Paper envisages restating the concept of "Active Defence" using new principles of autonomy, information dominance and precision strike, system versus system operations.

The seven Military Regions (MRs) have been reorganised into five Theatre Commands (TCs). The four Services will focus on force upgradation and training the armed forces. In December 2015, the PLA HQ (PLAA) was established for the first time. The 2015 White Paper emphasises the maritime domain. The PLA Navy (PLAN) is to stay prepared for the "maritime military struggle". There has been a shift from "near seas defense" to "offshore waters defense and open seas protection". The PLAAF will move from territorial air defence to aerospace dominance. The PLA Second Artillery Corps is now an independent Service, upgraded to the PLARF. It is structured to strengthen deterrence through science and technology. The PLASSF, which is responsible for information, cyber, space and electromagnetic warfare, will aim to win "informationized local wars". Space has emerged as a theatre of military operations.

PLA Army

The PLA Army (PLAA) will be downsized by 300,000 personnel by 2020. According to reports, the PLAA may cut 5 out of its 18 corps.

Fig 1



Only two corps will be left in the Western Theatre Command – the 13th and 21st corps stationed in Baoji in Shaanxi province and Chongqing respectively. There is a chance that the numbers could later show up in new airborne and marine forces. The remaining corps will be enlarged and restructured to include forces from all the Services. They are also being renamed, removing links to their past legacies. The PLA Army will only have 13 Ground Armies (GAs), with most of the focus on Taiwan and the South China Sea.

Table 1

Deployment of Group Armies		
Theatre Commands (HQ)	**Area of Focus**	**Combined Corps Deployed**
Eastern TC (Nanjing)	Taiwan, East China Sea	71,72,73
Southern TC (Guangzhou)	Vietnam and South China Sea	74,75
Western TC (Chengdu)	India, Xinjiang	76, 77
Northern TC (Shenyang)	Korean Peninsula and Russian	78,79,80
Central TC (Beijing)	Internal Security and Reserves	81,82,83

Flattening Higher Management: The CMC, PLA and TC system have been reformed after Xi Jinping assumed chairmanship of the CMC. The powers of the CMC have been strengthened. The PLA's four General Departments have been restructured into six joint departments, three commissions and five offices; these will be under the direct control of the CMC. There are now two clear lines of authority under the CMC: the Services manage the force, while the theatres fight wars.

The PLA is getting ready to prosecute local wars under informationised conditions, with very limited objectives. There has been an increase in synergy and jointness through the trimming of the command structure, reducing decision-making times.

China is extending its strategic reach by expanding its interests into areas which China wants to expand. The PLA Army remains a dominant force despite low levels of modernisation.

PLA modernisation is an extension of its national objectives. As the objectives have changed, so has the pace of modernisation. China's proactive stance sends the message that it does not want to appear as a defensive power, and will be the one to take the offensive, should the opportunity arise. India must focus on constantly decoding the Chinese intent to ensure that no party is left surprised at China's actions.

PLA Navy

China's naval modernisation is a function of a three-step development strategy. These are: laying a solid foundation by 2010; making progress in Asia by 2020; and being able to win informationised wars by 2050. China has already succeeded in the first, and is making rapid progress in the second, while laying emphasis on quality for the third stage.

A modern fleet is one that not only has multi-mission surface competence; it has aerial capability as well. Today, 65 percent of China's destroyers and frigates are modern ones. By 2020, this figure is set to rise to 85 percent. China aims to acquire 21 destroyers, 35 frigates, 20 corvettes, 85 missile-armed patrol craft, 56 amphibious ships, 30 mine warfare ships and over 50 major auxiliaries. China has still got a lot of legacy ships.

It must be noted that while China has acquired anti-ship ballistic missiles, this is not a proven capability. Anti-ship cruise missiles also comprise a huge development by China.

China's naval modernisation includes enhancement in capability, along with capacity enhancement. Efforts are being made regarding issues such as maintenance, logistics, education and training, among others.

Fig 2: Chinese Navy: Growth in Guided Missile Destroyers (DDGs) and Guided Missile Frigates (FFGs)

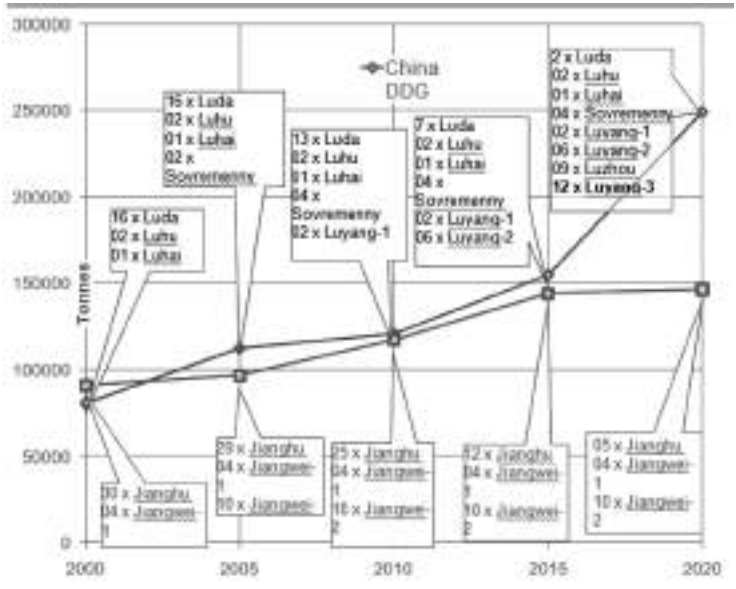
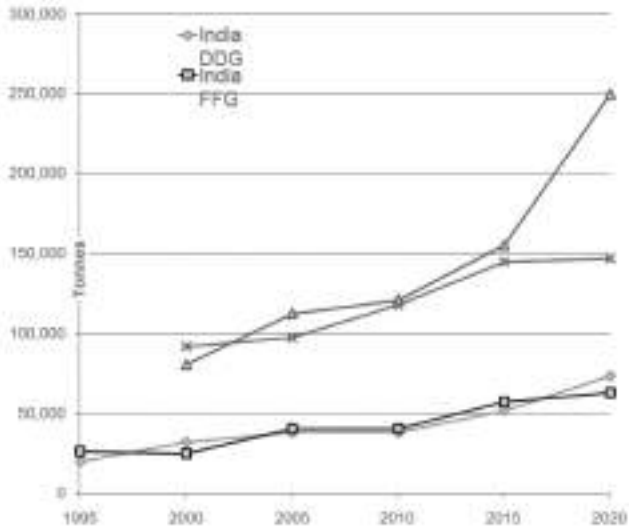


Fig 3: Comparison of Chinese and Indian Tonnage



There has been an increase in overall tonnage in China, an excellent indicator of blue water capability. In comparison with India, the number of individual Chinese ships is far higher. Therefore, the Chinese Navy can meet a wider range of missions, including the enforcement of increasing maritime claims, protection of economic interests, counter-piracy missions and conflict. Chinese submarine development plans till 2020 indicate a mix of SSNs and SSKs. The Yuan class submarines have been steadily increasing. It is likely that by 2030, China will have aircraft carrier combat capability. India has a short window to develop its own capability so that it does not get left behind.

China is participating in a long-term geopolitical strategy, enabled by naval modernisation and naval reach. China does not have the ground stations to maintain satellites for real time intelligence over the Indian Ocean. For instance, it deploys its Yuan I class satellite telemetry ships in the coasts around South Africa. This becomes a concern for India when we engage in exercises with Brazil and South Africa since we lack the ability to determine the specificity of Chinese actions in these oceans. The creation of a Chinese ground station in Sri Lanka is a game changer. The lease of the Feydhoofinolhu atoll in Maldives to a Chinese company for 50 years for just $ 4 million will enhance the Chinese capabilities. The development of military bases in Djibouti and Gwadar must also be viewed in this light.

Fig 4: Hambantota Port

Fig 5: Feydhoofinolhu Atoll

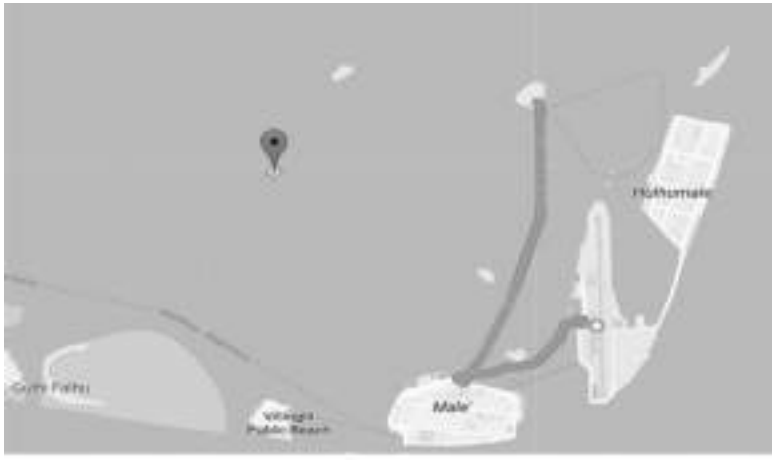


Fig 6: Djibouti Base

China is not surrounding India deliberately but India is definitely getting encircled. In case we face a full spectrum high intensity war covering the domains of land, sea, air, outer space, inner space, China's current efforts to monopolise the three global commons – sea, space and cyber space – will put India at a huge disadvantage.

China's short-term vision exceeds India's long-term vision. We need to shape the probable maritime battle space and understand the theatre. By 2018, there will be two India's of equal area: one on land, and another in the territorial waters around the Andaman Islands. Both will be 3.22 million sq km and we will need to balance our operational imperatives at land and our operational imperatives at sea. China is also likely to enhance ostensible anti-piracy missions in the Gulf of Aden and maintain presence missions in the western and southwestern Indian Ocean.

India needs to be wary of China's deception and salami slicing of territory. Chinese bases in the Indian Ocean Region (IOR) can be a peace-time asset but they are also a liability in times of action, one that India can take advantage of. India needs to address the lack of breadth of the Indian Army and Indian Air Force across the Line of Actual Control (LAC), and lack of depth in Arunachal Pradesh. Securing our Sea Lines of Communication (SLOCs) should be another priority.

PLAAF

A major beneficiary of the Chinese military modernisation is the Chinese Air Force. In 2014, the American authorities had stated, "The PLAAF is pursuing its modernization on an unprecedented scale". The PLAAF has a combat aircraft strength of 2,100 aircraft out of which 600 are 4th Generation fighters. The PLAAF will also acquire 24 Su-35s from Russia by 2018. Su-35s have super cruise capability; the K-100 air-to-air missile has a range of 400 km and an AI radar range of 400 km. China is likely to copy Su-35's AL-117S engine.

The technological advantage that the IAF possessed is now being eroded with the Chinese acquisition of the Su-35s from Russia and the J-20 stealth aircraft. The J-20 stealth fighters entered service in 2017. China plans to build 100 by 2020, and another 100 by 2023. Some of the problems faced by the J-20 are the WS-15 engine's reliability; stealth paint; hull materials; IRST and the control systems. The J-31 is another high profile stealth fighter being developed for carrier operations.

China possesses a strong Air Defence System Network, with a nationwide Integrated Air Defence System (IADS), armed with Russian long range S-300/S-400 class Surface-to-Air-Missiles (SAMs), Airborne Warning and Control System (AWACS) Kong Jing- 2000 (IL-76 platform) and Airborne Early Warning (AEW) KJ-200, KJ-500 (Y-8 platform), and 6 battalions of S-400s being procured (delivery estimate: 2018).

The Chinese bomber fleet H-6K (heavily modified from the H-6 bomber) can launch the CJ-20 cruise missile at a range of 1,500 km. New generation long-range bombers are likely to be ready by 2025.

The Chinese tanker force is limited to just 10 H-6Us and 3 IL-78s procured from Ukraine. The H-6 tankers are capable of refuelling only indigenous fighters like the JH-7B, J-8 and J-10. IL-78 refuels the Su-27/Su-30. The Y20 heavy transport aircraft entered service in 2016. In a tanker role, it will significantly enhance the reach of the PLAAF's combat force, bolstering the PLAAF's capabilities against India. The PLAAF will be able to operate from rear bases which are at lower heights.

Even though the PLAAF has a number of aircraft, it does not have supporting airfields to attack India. An air campaign can only be launched if the airfields are at a minimum of 300 km from the border. China has a limited number of airfields in the Tibet region. They will be unable to support each other during operations. The Tibetan airfield infrastructure is not reinforced for sustaining an air campaign as these airfields do not possess the protected blast pens required for safe parking of aircraft. The redundancies are higher in the northern and eastern sectors. Most of the military exercises are conducted through these airfields. The number of airfields in Yunnan is high but the distance from the Indian border does not make them ideal launching points. They are, thus, focussed on non-India-centric operations.

Fig 7: PLAAF (North)

Fig 8: PLAAF (East)

With the present state of airfield infrastructure in Tibet, it does not appear that the PLAAF has the capability to achieve air superiority against the IAF. China's main advantage is the PLA Rocket Force.

PLA Rocket Force

The PLARF has been elevated to an independent command to carry out its own construction and development. The Commander of the PLARF has been elevated to the Central Military Commission. Joint training has been introduced to ensure smooth cooperation with the other Services. One hundred officers from the PLARF have been transferred to the joint command capabilities as well. Stricter training standards and evaluation mechanisms have been implemented for the PLARF. It is envisaged as the core of China's strategic defence, although relying so heavily on this trump card can be risky.

The major elements of a modern rocket Army were outlined in Wei Fenghe's and Wang Jiasheng's writing. According to them, a capable rocket force requires both nuclear and conventional components according to the strategic requirements of deterrence and the combat capability of nuclear and conventional weapons. It should enhance the credibility and reliability of nuclear deterrence and nuclear counter-attack capability. A nation should aim to strengthen precision strikes for long-range targeting. Strategic checks and balances also need to be enhanced to demonstrate a nation's role in the region.

The PLA Second Artillery has been upgraded to a full Service as the PLA Rocket Force. China's main goal in nuclear forces is assured second strike capability against the US. Since the late 2000s, the newer generation long range missiles have been coming into service. These include the TEL-based DF-31 and 31A missiles, MIRV DF-5B and C, and the under test DF-41. It fields a variety of long range conventional IRBMs and LACMs such as the DF-21D ASBM and DF-26 for A2/AD.

"China has the most active and diverse ballistic missile defence program in the world", according to the US National Air and Space Intelligence Centre (NASIC). However, little is known about China's strategic ballistic missile defence system, barring two mid-course interception tests, in January 2010 and January 2013. A Federation of American Scientists (FAS) study claims it is a thin shield which would not be effective against the US but could have consequences for India.

The new military theatres are looking at particular directions. According to the Ministry of National Defence, each strategic theatre reflects a particular strategic threat. The East China Sea is central to Chinese Rocket Force use. The PLARF has been conducting joint exercises with the South China Sea fleet but the missile defence shields like the Terminal High Altitude Area Defence (THAAD) in South Korea are a challenge. China does not have a capable missile shield but its objective is not to acquire one but project to the US that it has the technological capability to acquire one if needed.

The creation of a separate Rocket Force has resulted in China shedding the secrecy surrounding its nuclear development. Its international military diplomacy has become more muscular. It has differentiated itself from the Russian nuclear forces by choosing not to add the word "strategic". There are ongoing debates about where the control for tactical missiles and Sea-Launched Ballistic Missiles (SLBMs) should lie. There have been moves for civil and military integration. Licences have been given to private companies to produce weapons and equipment. Officers have been transferred to these companies to facilitate integration.

However, the PLARF does face challenges. The Chinese military has the practice of promotions for money. The anti-corruption drive is making some headway but the impact of corrupt practices has weakened the Chinese military. The success of the anti-corruption drive will determine how far the PLARF can advance. The PLA Ground Force is still trying to retain influence in the Chinese military. The PLARF also has limited awareness of the strategic environment it needs to function in. The military is dominated by formalism instead of professionalism. There is a dichotomy between encouraging both loyalty to the Party and independent decision-making. The impact of the reforms and whether it is possible to change the entrenched Chinese system will be clear only in another decade.

PLA Strategic Support Force

China's space programme has never been under civilian control. It was under the General Armament Department earlier. It was felt

that the Army had overwhelming control over the information being generated and this force was created for better information sharing. The PLASSF was established on December 31, 2015. Central to China's Active Defence concept, the PLASSF will form the core of China's informationised war force. It will be an important factor in integrating the existing military systems and Services, acting as an information umbrella. The main purpose is to provide accurate and updated information support.

The PLASSF has two verticals: one deals with space and the other with information warfare. Space includes reconnaissance and navigation, among others. There are three main aspects of information warfare: psychological operations, cyber, and electronics. After the establishment of the PLASSF, psychological operations have not received much focus. The cyber and electronics domains have received the bulk of attention. Under the previous system, PLA departments used to control operations, intelligence, technological reconnaissance, ECM and RDR, and informationisation. Manpower and resources have been drawn from all of these departments to create the PLASSF.

Even though China's official stated policy is non-militarisation of space, its satellites have a significant military content. China sees space as a means for obtaining intelligence and navigation information to enable long-range precision strikes. Simultaneously, it seeks to obtain offensive space capability against adversaries. China went from owning a minor force of around 10 satellites in 2000 to launching 181 by 2017. These range from weather, earth, environment monitoring to remote sensing and navigation satellites. China has various programmes – Tiangong (space station), Chang'e (moon programme) and Shenzhou (manned space programme). Another major achievement is the development of a quantum satellite, QUESS. The Chinese claim that they have tested this hack-proof communication between Beijing and Shanghai, and are extending it to other parts of the country. Many ratings say China is ahead even of the US in this field.

The space programme has made rapid progress. China is closing the sensor-shooter loop. It has already launched 30 missiles as part

of the Beidou navigation system and plans to upgrade this to an advanced constellation of 35 satellites into orbit by 2020. These 35 satellites will give the Beidou global coverage. Beidou has three types of satellites: 27 Beidou 3M (medium earth orbit), 3 Beidou 3I (inclined geo-synchronous) and 5 Beidou 3G (geo-synchronous). Navigational data is available for free, accurate to 10 m, at a speed of 0.2 m/s, within 10 nanoseconds. There is also a licensed version of the data available for military use to the PLA, accurate up to 10 cm.

Cyber warfare is being emphasised by China. Xi Jinping personally heads the Central Cyber Space Affairs Leading Group. The development of a cyber force is being emphasised. Chinese universities have produced 30,000 new scholars so far. The demand is even higher at 70,0000 cyber professionals, which will rise to 1.2 million by 2020. An SSF Information Engineering University will be established soon. In mid-September 2017, approval was granted for the establishment of seven cyber security schools in universities (Xidan, Southeast, Beihang, Wuhan, Sichuan, Science and Technology, SSF Information Engineering).

Information warfare, combined with cyber warfare, will give China asymmetric capabilities in the future. It has theatre level joint operations command, commissions and liaison sub-systems to synchronise broadband operations, and command and liaison sub-systems to synchronise broadband, multimedia information taxation. It has set up integrated processing sub-systems for operation command services such as message processing, mapping, simulation and automated decision-making for both peace-time and war-time. It has fixed and mobile theatre reconnaissance and detection systems to improve intelligence, Information Operation (IO) recce, detection, information processing and rapid relay of such information, ECM and intelligence database systems that can integrate and share electromagnetic intelligence.

On the psychological warfare front, a budget of $ 10 billion has been earmarked to handle the media every year. This was visible in the media coverage during the Doklam stand-off.

The main aim of the PLASSF is to enable battlefield operations in aerospace, space, cyber and electromagnetic battles to include target tracking and reconnaissance, Beidou satellites operations, managing space-based assets, attack and defence in cyber and electromagnetic spaces. It must be emphasised that in a departure from its objectives stated earlier, it has been stated that the priority of the PLASSF is to protect the country's financial security and the security of people's lives. This implies that this force will be used not only domestically but also extra-territorially.

Conclusion

As laid out by Xi Jinping at the 19th Party Congress, the PLA will complete its modernisation and have an advanced application of technology by 2020; PLA modernisation will get completed by 2035; and the PLA will be capable of winning modern wars globally by 2050.