CHINESE DEFENCE FORCES: MODERNISATION AFTER 1980

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Combine the military and the civil, combine peace and war, give priority to military products, let the civil support the military.

— Deng Xiaoping

On October 1, 2009, the People's Republic of China (PRC) held the largest parade in its history to celebrate the 60th anniversary of the founding of the Communist state. Hundreds of thousands of people marched past the review stand in Beijing's Tiananmen Square, with President Hu Jintao and his predecessor, Jiang Zemin, looking on. The military units taking part, which included 14 infantry, 30 mechanised and 10 airborne formations, offered an insight into China's evolving strategic posture, and their equipment showed the fruits of over 30 years of reform and modernisation within China's defence forces.

Overall, the formations on show indicated that the People's Liberation Army (PLA) is rapidly reaching its goal, spelt out in a 2008 Defence White Paper, of creating smaller, more agile and flexible units that are designed to win regional wars in the digital era with full use of information, communications and surveillance technologies, an objective that parallels

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those obtaining in most of the Western armed forces. Under this approach, rapid reaction units, as well as airborne and special forces, are designed to be supported by a highly developed civilian transport network and infrastructure, as well as by a military civilian integrated logistical system. While some units specialise in amphibious warfare, the main goal is to be able to operate over a wide range of terrains.

MILITARY REFORMS AND MODERNISATION

The origins of military reforms and modernisation can be traced back to the beginning of Deng Xiaoping's "Reform and Opening Up" movement of the late 1970s. The costly war with Vietnam in 1979 forced the Chinese leadership to acknowledge the need to modernise the PLA. Military reforms gained a new urgency after the 1991 Gulf War, when the destruction of the Iraqi Army by a US-led coalition made the PLA realise its own obsolescence. Reforms focussed initially on the ground forces, as the PLA was expected to fight its next war against a Soviet style adversary. Air and naval forces received little new investment. The main objective of these reforms was to create smaller, more sophisticated forces. To this end, the PLA was reduced in size from six million active personnel in the 1970s to the current 2.3 million through a series of substantial force reductions in the 1980s and 1990s. Under Jiang Zemin, the PLA began to place technological modernisation at the centre of its development for the future, importing many modern weapon systems from abroad.

Reforms under Hu's leadership have seen the PLA both maintaining existing policies and taking new directions. It has continued to decrease the size of military formations, experimenting with reorganising divisions into brigade size units, while building up the quality of the recruits. At the same time, it has shifted the emphasis of development from ground forces to the more technology intensive air and naval forces. The 60th Anniversary Naval Review that took place in April 2009 indicated that advances were being made in naval forces, and the Beijing parade provided further evidence of progress on all these fronts.

Less Infantry, More Mechanised

Among the ground forces, the most significant change was the reduction in the number of infantry units. This showed the progress the PLA has made towards the mechanisation of the armed forces. On display was the highest ever percentage of mechanised formations, comprising 30 different blocks, including the latest generation of Chinese Main Battle Tanks (MBTs) and Infantry Fighting Vehicles (IFVs). The infantry units on display indicated shifts within the military. The presence of army cadets, drawn from the Shijiazhuang Army Command College, underlined the PLA's emphasis on developing a new, well educated and professional officer corps. There are already 1,20,000 university graduates serving in the PLA and, under a new recruitment campaign, future Non-Commissioned Officers (NCOs) are directly recruited from among high-school graduates. The PLA hopes that this new generation of officers and NCOs will enable it to man its new generation of high technology weaponry and will provide the capability to conduct wars in the information age.

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Underlining the drive towards creating a 'small but elite' army, special forces made their first appearance in public. The PLA has special forces detachments deployed in every Military Region (MR), available to be deployed rapidly to any potential hotspot. In addition, a naval infantry formation was drawn from the Submarine College in Qingdao, highlighting the increasing prominence of China's submarine force in its strategic thinking.

Missiles Fill Projection Gap

The formations that were most eagerly anticipated and scrutinised by observers were the strategic missile forces of the Second Artillery. The DF-15 short-range, DF-21C medium range and DF-31A Intercontinental Ballistic Missiles (ICBMs) remain the mainstay of Chinese deterrence, as also provide area denial capabilities over the Taiwan Strait, with the DF-15

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possessing the shortest warning/detection time and the greatest ability to break through anti-missile defences.

The combination of ship and ground-launched missiles of various payloads and ranges offers real strategic depth to the PLA for the first time. While the absence of both the DF-41 ICBM and the latest JL-2 Submarine Launched Ballistic Missile (SLBM) suggested that this was not a point that China wished to emphasise, it was clear that China could use missile forces to compensate, at least temporarily, for a lack of power-projection capabilities. The missile forces fill the gap by providing area denial and precision strike capabilities over both the Taiwan Strait and the South China Sea.

Confidence in the Air

Instead of the traditional long range bombers, the flypast was led by the air force's new generation of Airborne Warning and Control System (AWACS) aircraft. The KJ-2000 AWACS aircraft have been in service for several years, but were only publicly acknowledged shortly before the 2009 parade. The aircraft allow the air force to operate with increasing confidence and to move away from a reactive, static defensive posture and towards one of more active defence. This means that the PLA Air Force (PLAAF) possesses more flexibility to choose the air space in which to operate, instead of merely reacting to airborne incursions.

The message was that the air force is increasingly confident in both its aircraft and its air defence network. As it focusses on achieving air superiority, the latest fighters such as the J-10 and J-11 are being integrated into a command and control network which will be directed from AWACS aircraft rather than from the ground. However, the lack of a capable helicopter arm was evident, and this will restrict battlefield air support for the

ground forces. Naval aviation assets are meanwhile aimed at assault capabilities, with the JH-7A able to perform low-level anti-shipping attacks as well as Electronic Counter-Measure (ECM) 'growler' missions. These factors, combined with mid-air refuelling, demonstrate China's strategic shift from a defensive posture to active defence, with the potential, for example, to mount long range fighter patrols and to develop anti- shipping strike capabilities as a means of protecting what China sees as its territorial concerns in the South China Sea.

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China has been criticised for a lack of transparency in its military establishment. In this context, the 2009 show was truly surprising. Models of the equipment were shown, even including those of missiles in the previously mysterious Second Artillery force. This too was a sign of the PLA's growing confidence, along with a wish not to be seen as opaque or threatening by its neighbours. The emphasis of China's military modernisation has clearly switched from the domestic issue of reforming the ground forces, and is now looking outwards. As it pursues projects such as its aircraft carrier building programme, as well as continued developments in space technology, China's next step is likely to be to seek to provide the PLA with battlefield dominance and the country with regional power-projection capabilities.

AIM

The aim of this paper is to examine modernisation of China's defence forces since the 1980s and the likely impact of its military strategy and doctrine on the region, especially in the Indian context.

CHINESE DEFENCE FORCES MODERNISATION: AN OVERVIEW

The PLA is in the fourth decade of a comprehensive programme of modernisation and transformation that began in 1979 after the PLA's last major campaign against a foreign enemy — its "self-defensive counter attack"

In 1985, China's Central Military Commission (CMC), headed by Deng Xiaoping, declared the most likely military contingency China could face to be "local, limited war."

against Vietnam. The programme continues with renewed vigour into the new century.[1]

Chinese military modernisation encompasses all four Services with priority of effort directed toward the PLA Navy (PLAN), the PLA Air Force (PLAAF) and the strategic missile force known as the Second Artillery.[2] The ground army, which previously had been the centre of gravity of the Chinese armed forces, remains the largest Service and still provides the bulk of senior leadership for the military, but it has felt the brunt of force reductions as the PLA's mission emphasis has shifted.

The strategic underpinning for a long-term military modernisation process was set in 1985 when China's Central Military Commission (CMC), headed by Deng Xiaoping, declared the most likely military contingency China could face to be "local, limited war" replacing the threat of the "early, major, and nuclear war" foreseen by Mao. Because the threat of major war was deemed low, senior Chinese leaders made the critical strategic decision to subordinate military modernisation to other aspects of national economic development such as agriculture, industry, and science and technology. Thus, in the 1980s and early 1990s, the Chinese government did not spend vast sums of money and national resources to rapidly modernise the PLA.

ECONOMIC DEVELOPMENT AND MILITARY MODERNISATION DURING THE 1980s

The current Chinese security policy framework has its roots in the shift of the Chinese Communist Party's (CCP's) strategic view towards war and peace in the 1980s. A consensual strategic view was developed within the CMC in 1985 that, while the possibility of a world war still existed, it was increasingly seen as remote. Previously, the PLA prepared for a full scale

1. Dennis J. Blasko, *The Chinese Army Today: Tradition and Transformation for the 21st Century* (Routledge, 2006), p. 17.
2. Ibid., p. 53.

war because it was thought that a world war in which China would be involved was imminent. China's strategy in this potential global conflict was to "lure the enemy in deep" in order to overcome the enemy's technological superiority with China's numbers of troops.[3]

Adoption of this strategic view gave additional impetus to the force restructuring and modernisation that was already linked to the broad trend of economic development. Based on the new strategic view, Deng Xiaoping predicted that China could then carry out the "Four Modernisations" plan with the assurance of a stable international environment. While military modernisation was the last of the "Four Modernisations," Deng rationalised that a successfully modernised economy would facilitate a successful military modernisation, and, thus, PLA modernisation should be focussed on supporting economic success.[4] At the 1985 CMC conference, Deng offered the explanation, "We can modernise military equipment after we have successfully developed the domestic economy. Therefore, we have to be patient for several years. The PLA must reduce its manpower by a million soldiers." Secondly, Deng emphasised that the PLA would have to determine its role in China's future using the principle that economic growth is the highest priority.

The PLA responded by proposing a policy framework that incorporated preparations to wage a limited war, and suggesting future roles of the PLA within the context of Chinese economic development. One of the first Chinese military leaders to envision the new role was Gen. Liu Huaqing. Liu, who had a close personal relationship with Deng Xiaoping since they were in the 2nd Field Army and was promoted to Commander of the PLAN in 1982. Liu published a paper on November 24, 1984, titled, "Let Chinese Maritime Business Develop by Building up a Strong Naval Capability."[5] In this paper, Liu argued how the PLA should contribute to economic development by further developing the defence industrial base as a critical

3. David Shambaugh, "China's Military: Real or Paper Tiger?" *The Washington Quarterly, 19:2*, 1996, p. 26.
4. Deng Xiaoping, *Collected Works of Deng Xiaoping*, Vol. 3 (Beijing: Renmin Chubanshe, 1993), p. 62.
5. Liu Huaqing, "Let Chinese Maritime Business Develop Through Building up Strong Naval Capability", *Renmin Ribao*, November 24, 2004.

sector of the national economy. Liu argued that a significant part of the Chinese maritime business sector consisted of providing technical support functions to the PLAN.

For the first 10 years of modernisation, China perceived its major potential foe to be the Soviet Union. Using force to reunify Taiwan with the mainland was low on the list of China's military priorities. By the mid-1990s, the situation between the mainland and Taiwan had changed considerably.[6] A multi-party democratic form of government was taking hold on the island, and voices for independence had risen. After the 1995-96 crisis in the Taiwan Strait, China's leaders decided they needed to develop military capabilities more rapidly to prevent what Beijing perceived as further steps toward Taiwanese independence. Although the Chinese leaders preferred peaceful reunification of the island with the mainland, they knew Taiwan and its supporters in the United States had to see China's military power as credible. As a result, after 1999, the intensity of the PLA's modernisation process increased, focussing principally on the goal of deterring Taiwan's independence and, if necessary, on imposing the will of the Chinese leaders by force.

The acceleration of PLA modernisation after 1999 became possible to a large extent because of the confluence of a more specifically defined mission, the availability of increased resources, a smaller force, and 20 years of previous effort that had laid the groundwork for what was to follow. In particular, many advances in the PLA since 1999 have taken advantage of the nation's impressive economic growth during the 1990s, especially developments in the Chinese electronics industry. The end of the Soviet threat, along with the availability of advanced military weapons from a cash strapped Russian government, also contributed to changes in China's strategic posture in the late 1990s. Still, despite some marked improvements in China's military capabilities, the effectiveness of PLA modernisation has yet to be proved in battle against a hostile force.

The modernisation of the Chinese armed forces is occurring in virtually

6. Seiichiro Takagi, "China and Multilateral International Cooperation in Asia-Pacific," *International Affairs*, 442: 1997, pp. 53-67.

every aspect of military matters. However, trend analysis shows that faster progress is occurring in some areas while others prove to be more complex and/or resistant to change. Military equipment modernisation has become the PLA's number one priority. The leadership in Beijing also espouses a strong desire to produce the new military equipment indigenously. Also, they are pouring more money into their defence industries in the hopes of producing this modern equipment within the country.[7] But lack of resources and slow conversion of the defence industries has thus far enabled them only to purchase high-tech weaponry from outside China in the hope of "reverse engineering" the technology. They have also purchased dual use technologies in the hope of converting the concepts or devices to military applications.

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Equipment Modernisation

The vast majority of the PLA's conventional weapons is rugged, reliable equipment based on the 1950s and 1960s technology. It continues to rely on modernised versions of obsolescent Soviet and Chinese equipment. Another major problem the Chinese military faces is the obsolescence of a large amount of other military equipment in the near future. The military has vast numbers of tanks and airplanes that were built in the 1950s and 1960s and are nearing the end of their service lives. Therefore, in addition to desiring advanced technology equipment to modernise and upgrade its forces, China is acquiring new equipment to replace the existing force structure.

Also, the modernisation efforts have given China the ability to deploy and conduct limited amphibious operations beyond its borders. But the units' small size, their dispersal throughout the country, and lack of lift capability limit the effectiveness for large scale operations. The navy has

7. David L. Shambaugh, *Modernizing China's Military: Progress, Problems, and Prospects* (Berkeley: University of California Press, 2002), pp. 159-187.

significantly improved its operational range, firepower, and air defence capabilities. These improvements allow the navy to operate farther from the coast for longer periods. However, it still cannot mount sustained, coordinated operations. The air force still has very limited capability, even with the purchase of the advanced Russian fighters. These aircraft, while modern, do not compare to the F-16s possessed by other regional nations.

Elements of Modernisation

By the turn of the 21st century, several distinct but interrelated elements could be seen in the PLA's modernisation programme. The following components of modernisation were directly linked to developments of the previous two decades and enhanced by increased resources available since 1995:

- Reduction in force size.
- Changes in force structure.
- Reform of the structure and missions of the reserves and militia.
- Changes in the personnel system.
- An influx of new equipment.
- Doctrinal revision to prepare the PLA to fight and win local wars under modern high-technology informationalisation conditions.
- Improvements in the frequency, content, and methods of military training, with emphasis on joint operations.
- Transformation of the PLA logistics system.
- Enhancement of all soldiers' standard of living, pay, and lifestyle.
- Modification of the professional military education system.

CHINA'S WHITE PAPER ON NATIONAL DEFENCE, 2004

China published its fourth White Paper on national defence on December 27, 2004, in its national daily, *People's Daily*. The highest priority goal for China's defence policy is to defend national sovereignty and integrity, including maritime rights and interests, and prevent separation of parts of the state. In the paper, China identifies its key security concerns, even though it states that the overall national security environment in the modern world has improved. These are:

- The "vicious rise of Taiwan independence" forces.
- The technological gap resulting from the Revolution in Military Affairs (RMA).
- The risks and challenges caused by the development of the trends towards economic globalisation.
- The prolonged existence of unipolarity vis-a-vis multipolarity.
- To stop separation and promote reunification, guard against, and resist, aggression, and defend national sovereignty, territorial integrity and maritime rights and interests.
- To safeguard the interests of national development, promote economic and social development.
- To modernise China's national defence in line with both the national conditions of China and the trend of military development in the world by adhering to the policy of coordinating military and economic development, and improving the operational capabilities of self-defence under the conditions of 'informationalisation.'
- To safeguard the political, economic and cultural rights and interests of the Chinese people, crack down on criminal activities of all sorts and maintain public order and social stability.
- To pursue an independent foreign policy of peace and adhere to the new security concept featuring mutual trust, mutual benefit, equality and coordination with a view to securing a long-term and favourable international and surrounding environment.

What also emerges from the White Paper is an unambiguous statement about the status of Taiwan with respect to China and also of China's desire to bridge the gap in RMA by adopting information technologies. Towards this achievement of RMA, modernisation of its navy, air force and Second Artillery Force has been highlighted as a key understanding of the necessity of joint operations to achieve a clear victory over its adversaries and the need to intensify training to achieve this. This has evolved out of detailed studies undertaken by various military scholars of China on Allied forces' operations in the Gulf War, Kosovo, Afghanistan and the Iraq War. Chinese

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The drive to incorporate RMA with Chinese characteristics and to intensify joint training are to be viewed as efforts to develop its joint operations capabilities with an enhanced Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) network, a new command structure, and a new integrated tri-Sservice (joint) logistics system. The overriding concerns expressed in the White Paper are about Taiwanese separatist forces, the need for modernising China's armed forces, especially the Second Artillery Force, PLAAF and PLAN, and the USA's growing military influence in the region. India has been mentioned to appreciate that "tensions between India and Pakistan have eased and the two countries have maintained the momentum of peaceful dialogues," and later to indicate cooperation in anti-terrorism operations and conduct of the exercise with the Indian Navy in November 2003. Obviously, India is not a strategic concern for China in the near future. But is the converse as true?

CHINA'S ACCELERATED MILITARY BUILD-UP: THE STIMULI

China's accelerated military build-up, its military upgradation and integrated warfare operational training dates from 1992 onwards. In every successive year, the military power enhancement process has picked up more steam. China's ambition to emerge as a global power, competing strategically with, if not confronting, the United States, has been the major underlying national ambition of China. China has, in no uncertain terms, with such accelerated military build-up, made it clear that it intends to emerge as a "military superpower". Also, China does have a well thought out strategy to achieve this aim. The *China's National Defence* publication of 2006 spells out the following: "China pursues a three-step development strategy in modernizing its national defence The first step is to lay a solid foundation by 2010, the second is to make major progress around 2020,

and the third is to basically reach the strategic goal of building informatized armed forces, capable of winning informatized wars by the mid-21st century." The implied reference in the last sentence is unmistakable. With such a blueprint, China's military power build-up annually would be a constant feature.[8]

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Drawing upon foreign military experiences, particularly US led campaigns up to, and including, Operation Enduring Freedom and Operation Iraqi Freedom, Soviet and Russian military theory, and the PLA's own combat history, China is transforming across the whole gamut of its armed forces. The pace and scale of these reforms are broad and sweeping. However, the PLA remains untested in modern combat. This lack of operational experience continues to complicate outside assessment of the progress of China's military transformation. According to the 2008 Defence White Paper, these guidelines emphasise fighting and winning local wars under conditions of informatisation and building toward integrated joint operations, with a stress on asymmetric warfare to "make the best use of our strong points to attack the enemy's weak points."

The broadest guideline for war-fighting within China's military doctrine is the concept of "active defence". Attempts to discern a systematic hierarchy among Chinese war-fighting principles usually identify two concepts: 'active defence' and 'local wars under conditions of informationalisation' at the top level of a military doctrine. 'Active defence' is an operational guideline for military strategy that applies to all the branches of the armed forces. It means that China does not start wars to achieve strategic ends and, thus, remains committed to use its armed forces only to defend against attacks at its national sovereignty. According to the 2006 US Department of Defence (DoD) report, any attack by the People's Republic against Taiwan would be legitimised by "active defence" as a preemptive, defensive act.

8. T. D. Joseph, "Military Modernisation in China: Some Implications for India," *AIR POWER* Journal, vol. 3, no. 1, Spring 2006 (January-March), p. 29.

The implications of the change of language from "limited wars under high-tech conditions" to "local wars under the conditions of informationalization" remain to be seen. Further, the extent to which the new concept will gradually replace the old one or if it will mainly augment it also remains to be seen. It is undoubtedly clear, however, that China has made great efforts to introduce high-tech equipment into its armed forces in order to enable the armed forces to undertake extensive joint Services campaigns with information technology capabilities.

Rich Country, Strong Armed Forces

Since the beginning of the 1990s, the Chinese economy has been enjoying rapid growth. At the 17th Party Congress on October 15, 2007, the General Secretary of Chinese Communist Party Central Committee, Hu Jintao, again emphasised the policy objective of "comprehensively being a well-off society" by expanding the Gross Domestic Product (GDP) to $4.4 trillion in 2020, a four-fold increase from 2000 .

Ensuring secure and uninterrupted energy resources is one of the potential bottlenecks in the sustained development of the Chinese economy, and some of the PLA leaders see access to energy markets as a potential role for the armed forces. China's security planning in the Asia-Pacific region highlights the geographic importance of Taiwan, which is located centrally along the Sea Lanes of Communication (SLOCs) connecting Southeast Asia to Japan, South Korea and China. In the event of a conflict or crisis within the Taiwan Strait, some observers in China have expressed concern about the potential for a blockade of these SLOCs, a glaring strategic vulnerability for China. Thus, the Chinese goal of energy security to sustain its energy development can be said to be one of the background factors in the linkage between China's economic development and military modernisation.

ASSESSING CHINA'S DEFENCE FORCES

PLA Ground Forces

The PLA ground forces still dominate the Chinese military structure,

although the air, naval, and missile branches are steadily gaining in strategic importance. Chinese security does not face the same challenges from ground forces on any of its borders that it does in terms of air, sea, and missile forces. China is, however, steadily improving its capability to use ground forces in a clash with Taiwan as well as its ground force rapid reaction and power projection capabilities.

The 2006 DoD report stresses the PLA ground forces' focus on "deep battle" capabilities.

Ground Force Doctrine and Strategy

The 2006 DoD report stresses the PLA ground forces' focus on "deep battle" capabilities. Such operations require the PLA ground forces to master far-reaching reconnaissance and strike capabilities, deploy highly mobile forces, and sustain support lines over an extended territory. This can only be done effectively through joint forces operations.

The 1970s saw the first change in China's long-held concept of a guerrilla style people's war. The updated doctrine was then called "people's war under modern conditions." Under this doctrine, force development towards increased mobility and joint interoperability were the focus.

It is clear that the PLA ground forces do not envision fighting an ideological war of attrition, with mass, low-technology capabilities. Along with the modernisation of human resources and equipment, the PLA will likely conduct military operations in the manner that has evolved over the past 20 years, particularly in the light of US campaigns in the Persian Gulf, the Balkans, and Afghanistan. This means a constant reliance on inter-Service operations with air and sea-based strikes preceding land operations, quick and massive strikes to gain battlefield superiority and fast movement of troops and material, and capabilities to fight asymmetric warfare. How these experiences will play out in a military contingency with Chinese participation depends on the enemy or enemies, the political underpinning of the conflict, the terrain, and the availability of military resources.

Army Aviation

The PLA ground forces aviation branch consists of at least 375 helicopters. Around 10 percent of the total helicopter inventory is made up of attack helicopters (31 WZ-9 and 8 SA-342). The army aviation branch within the PLA has steadily been built up in recent years, totalling 12 regiments plus two training regiments. A major modernisation includes variants of over 150 Mi-17 currently in service with the PLA ground forces aviation.

A new medium helicopter is being developed together with Eurocopter, apparently resembling the Agusta A-129. This advanced attack model is called the WZ-10 or Z-10. Reasonable information about this project is not available, but some observers state that this helicopter will feature advanced flight performance capabilities and cutting-edge ammunition. Also, development for a WZ-11 version has been reported, although details remain unknown. Currently in use as an attack helicopter is the WZ-9, of which 31 helicopters are reported to be in use, with more being delivered. The WZ-9 closely resembles the Eurocopter Dauphin. Any large scale introduction of attack helicopters undoubtedly is going to change the mission of the PLA ground forces aviation branch, as it may shift from a combat support to a partly combat force service.

PLA Navy (PLAN)

The PLAN's traditional and current major mission is to defend China's coastlines. The PLAN is increasingly preparing for combat operations further away from the coast as well as playing a role in a potential conflict over Taiwan. The basis for this information remains unclear, but the PLAN undoubtedly possesses the capabilities to provide means for troop transport to Taiwan as well as to conduct operations around Taiwan. Any meaningful assessment must weigh the actual ability of the PLAN to plan sustain operations in such a contingency as well as how effectively the PLAN is able to operate in cooperation with the PLA ground forces, PLAAF, and Second Artillery Corps. This becomes even more important, should a conflict over Taiwan involve other powers. As in the other PLA branches, the underlying doctrine for China's maritime force is "active defence".

Against the background of this concept, the PLAN has structured its forces according to a three-stage naval deployment. The first stage concerns the immediate coastlines and the so-called first island chain, which together represent the maritime areas most vital to China's national interests, i.e. including Taiwan. The first island chain near China's coast extends up to 200 nautical miles from China's seashores to the Kuriles in the north, following a line through Japan, the Ryuku Islands, encompassing Taiwan, the Philippines to Borneo (brown water navy). The second islands chain roughly follows the same line but extends to up to 700 nautical miles and encompasses all of Indonesia (green water navy). The third level would be represented by a virtually global force, capable of reaching and sustaining battle operations around the world (blue water navy). Apart from the necessary equipment and logistical support infrastructure, there is little indication now that the PLAN can execute operations anywhere near blue water capabilities.

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Doctrine

Recent developments in the PLAN's modernisation have led to the assignment of the term "sea denial" as a key component of China's naval warfare strategy. This approach centres on capabilities to deter or prevent an enemy by force or to capture and hold a certain area. According to the 2006 DoD report, China attempts to deploy sea denial capabilities as far as the "second island chain". If China employs sea denial operations, they will most likely involve a conflict or the prevention thereof in the Taiwan Strait. A capable submarine fleet is a key ingredient to sea denial. China's White Paper on National Defence of 2004 states that the expansion of naval capabilities is going to be a focus of its overall armed forces development. This has led many analysts to assume that China will develop blue water capabilities. The 2006 DoD report concedes that China's blue water capabilities will materialise in a time-frame described as "over the long term". The trend

in naval modernisation indicates that the PLAN concentrates on acquiring the means to lead and sustain warfare in a contingency involving Taiwan rather than build up a worldwide power projection force

PLAN Aviation

The PLA Naval Aviation Forces (PLANAF) execute air strike and air defence missions and are supposed to provide air support for the PLAN surface ships and submarines, reconnaissance and transportation missions. Currently, about 26,000 personnel are organised into nine aviation divisions. Each fleet command has one or two fighter divisions, a bomber division, one or two independent special mission regiments, and a ship-based helicopter regiment with its helicopters assigned to a specific surface ship. The navy aviation branch in recent years has undergone significant modernisation. Out of its 346 fighter planes, 48 are Russian made Su-30MK2s. These aircraft are arguably the most modern among all Chinese aircraft. The combat strength of 24 of China's Su-30 MK2s is almost equal to a US battle carrier group. Reports indicate that a third batch of 24 Su-30MK2 may be delivered by Russia in the near future. All fighters currently in operation may soon be replaced by the Su-30 MK2 and possibly J-10 fighter aircraft as well as the JH-7, which is a comparatively modern maritime interdiction aircraft. The PLANAF's 130 bomber aircraft, which consist of 100 H-5 bombers and variants, and 30 H-6Ds (based on the Tu-16), are outdated by any standards. Given that production for these series commenced in the 1960s, it is questionable how many aircraft are actually in operation. According to *Jane's*, some H-6Ds have been converted into tankers to provide refuelling support to J-8D fighters. Newer bomber developments apparently still use the H-6 as a platform. Reports indicate that an H-6M version with improved Anti-Ship Missile (ASM) pylons is being produced. If and when any new bombers will enter service remains unknown. Naval aviation holdings of patrol and reconnaissance aircraft remain fairly limited. The International Institute of Strategic Studies (IISS) reports holdings of 7 HZ-5 reconnaissance aircraft, and 4 Y-8X maritime patrol aircraft. Given poor coordination between the PLAN forces and naval aviation, it remains unclear as to what extent PLAN

vessels rely on naval aviation reconnaissance. Eleven reconnaissance aircraft is certainly a comparatively low number, given that South Korea's Navy, which is one-tenth of the PLAN's size, operates 8 reconnaissance aircraft, and Japan, 80. China is also interested in acquiring Su-33 aircraft, a modified version of the Su-27 that is used on Russian aircraft carriers. Besides, China has expressed interest in developing its own aircraft carrier.

Naval Modernisation

Although PLAN modernisation has received countless accolades as a pillar for China's military build-up, the overall picture is mixed. China has certainly demonstrated that it has the capability to launch modern combat vessels. At the same time, an examination of ongoing vessel developments suggests that if completed, the new ships will enhance the PLAN's war-fighting capabilities significantly by the end of this decade. For instance, the completion of the new 094-class submarines has doubled China's sea-based nuclear missile capabilities.

It has become commonplace to equate the procurement of modern naval vessels, especially those for blue water capabilities, with expanded geo-political ambitions. China's blue water capabilities are yet to be developed, though China's ambitions in this regard continue to be fiercely debated. Numerous sources report of Chinese plans to acquire and/or develop an aircraft carrier in the future. Attacking a US aircraft carrier battle group is an objective that leads the PLAN weapons procurement and order of battle considerations.

Apparently, in 2000, Chinese military leaders had devised a plan to build two 48,000-ton aircraft carriers. This plan has also been referred to as the "891 project". No reliable, concrete information on this project is available. It is estimated that China may develop an aircraft carrier in the range of 30,000-40,000 tons displacement within the next 10 years. Estimates about the date of an operational aircraft carrier range from 2015 to around 2020. At this point, China does not possess any aircraft that can be deployed on an aircraft carrier but this may be changed by the purchase of Russian Su-27s. Reports indicate that the PLAN is likely developing a twin turboprop

The primary mission of the PLAAF is to conduct offensive as well as defensive operations, and joint and independent missions under high-tech warfare conditions.

carrier aircraft similar to the US S-1/E-1. Future developments will, of course, rely on ship-building capabilities that use modern technologies and production techniques, available funding, and the determination that aircraft carriers are essential for China.

PLA Air Force

The PLAAF currently has a force strength of about 400,000 personnel and 3,243 combat aircraft. It comprises aviation forces, airborne, surface-to-air missiles, anti-aircraft artillery, and radar forces. The PLAAF is organised along Military Region (MR) lines, with an operational command in each MR, except the Jinan MR. The further command chain includes divisions, brigades, regiments, groups, and squadrons. A bomber division has about 10- 12 bombers.

Doctrine

The PLAAF prepares its training and order of battle for three possible campaign scenarios: offensive, defensive, and blockade missions. The primary mission of the PLAAF is to conduct offensive as well as defensive operations, and joint and independent missions under high-tech warfare conditions. The five PLAAF branches still appear to be relatively independent in terms of operational command. Only recently has the PLAAF begun to fly regiment size units simultaneously during training exercises. However, the Peace Mission exercises in 2005 have shown that the PLAAF tries to employ the full range of its combat aircraft in joint warfare with the other Service forces. Of all PLA Services, the PLAAF still appears to be the last to develop a vision and doctrine of joint warfare. Since 1999, the PLAAF has employed three tactical combat modes, stealth aircraft, cruise missiles, and armed helicopter attacks, for defence against precision air strikes, electronic jamming, and electronic surveillance and reconnaissance. Key changes that have taken place in the development of the PLAAF doctrinal guidelines

are:

- In 1999, the PLAAF revised its campaign strategy, assigning the PLAAF the mission to execute three types of campaigns: air offensive, air defence, and air blockade campaigns.
- In 2001, the PLAAF changed its training guidelines. The new guidelines stress training against assumed enemies and increased reliance on technological applications.
- This was accompanied by a change in its underlying outline for training and evaluation in 2002.

The sea change in doctrine on all levels, in contrast to the 1990s, refers, on the one hand, to an expansion from defensive to offensive and air blockade missions, and, on the other, the ability to perform joint missions with all other PLA branches on a tactical level. In terms of strategic doctrine, the PLAAF was designated in June 2004 to play a strategic role alongside the other two Services of the PLA. The force structure that the PLAAF possesses, in particular modern, long-range bombers, at this time does not meet the demands of this doctrinal shift. The biggest technical obstacle China will face is building a strategic air force. Future Chinese procurement of long-range bombers and/or ballistic missiles will allow more detailed assessments of the kind of warfare that the Chinese strategic air doctrine envisions.

CHINA'S AEROSPACE POWER

The Defence White Paper of 2004, in unambiguous terms, states that China intends to eventually achieve "command of the air and sea" and the ability to "conduct strategic counter-strikes." In order to develop area denial capability, the first aspect is developing a true blue water capability which China lacks at the moment.

The PLAAF is replacing older fighters with third and fourth generation aircraft fitted with long range, precision strike weapons for land attack and anti-ship missions and, in some of these aircraft, in-flight refuelling capabilities, which when fully operational, will extend operating limits. The PLA is negotiating with Russia to buy IL-78MK aerial refuelling aircraft and

has already contracted for the IL-76 based Russian Airborne Early Warning and Control System (AEW&C). In addition, it is also negotiating for the surplus Tupelo Tu-22M3 and Tu-95MS strategic bomber aircraft. Its plans to acquire and produce AWACS aircraft and the purchase of additional refuelling aircraft will significantly extend the range of its air fleet. Some of the weapon systems being acquired/manufactured/ developed towards this are:

- The KongJing-2000 (KJ-2000) is the first AWACS in service with the PLAAF, with four aircraft commissioned between 2006-07 (based on the IL-76 aircraft).[9]
- Su-27SK and Su-30MKK combat aircraft. China has reportedly cancelled the orders for 105 of the 200 Su-27s ordered, citing reasons of outdated technology, and plans to acquire more Su- 30MKKs instead so as to build up to a strength of 400 aircraft by 2015. The Su-30 aircraft is armed with AA- 11/R-73 SRAAMs, AA-12/R-77 BVRAAMs, AS-17or Kh-31 A1 ASMs, AS- 17/Kh-31P-1 anti-radiation missiles (ARMs), AS-18/Kh-59M ASMs, AA- 10/R-27 and R-27E BVRAAMs.
- SAM systems viz. S-300 PMU-1 and S-300 PMU-2, indigenous manufacturing of long range cruise missiles similar to the US RGM -109 tomahawk.
- Restarting production of the indigenous Xian H-6 Badger bomber aircraft in a new configuration capable of carrying four long range cruise missiles.
- The fourth generation combat aircraft, the F-10, which is being developed indigenously. It is, however, reported that the F-10 has a fair share of foreign components, namely, Israeli avionics, Russian engines, European landing gear, etc.
- The PLAAF stealth fighter, the XXJ, as a possible next-generation fighter (FGFA) is under development and likely to enter service in 2015. The PLAAF rolled out for taxi tests its first prototype stealth fighter, the J-20, in December 2010. This was sooner than most analysts had expected and

9. www//http//sino-defence.com, last accessed on February 01, 2011.

introduced the Chinese into the fifth generation stealth fighter arena.[10]

China's modernisation in its strategic missile capabilities has resulted in qualitative and quantitative improvements, providing it with not only a second strike capability which it always professed, but also a credible and survivable nuclear deterrent. China's nuclear capabilities are not being covered in detail in the paper. However, suffice it to state that its missiles are capable of targeting almost the entire Asia and Asia-Pacific theatre, including New Zealand and Australia, and most of the US.

Micro and nano-satellites will increasingly become the mainstay for shaping the battlefield by providing a cheap and affordable option in an operationally responsive space environment.

Another area that has seen rapid progress and modernisation is China's space programme which is critical for building a modern C4ISR capability. The two successful manned space missions, on October 15, 2003, and almost two years later, on October 12, 2005, are only the beginning of more ambitious projects like a lunar probe and a space station in the future. China has two remote sensing satellite programmes capable of digital imagery reconnaissance with worldwide coverage and is estimated to be developing a system of data relay satellites to support global coverage. China is also developing Electronic Intelligence (ELINT) and Signals Intelligence (SIGINT) reconnaissance satellites and also micro satellites (weighing less than 100 kg) for remote sensing, and networks of electro-optical and radar satellites. Beginning in the year 2000, China has already deployed half a dozen nano-satellites namely Tsinghua-1, Chuangxin-1, Tasuo-1 and 2, Naxing-1 and Tsinghua-2. In the years to come, micro and nano-satellites will increasingly become the mainstay for shaping the battlefield by providing a cheap and affordable option in an operationally responsive space environment for carrying out the entire

10. "The Rising Dragon in Asia - 2011," Update by Jeff Head. Last Update: January 11, 2011. Accessed on February 01, 2011.

spectrum of military space missions ranging from "force-enhancement" to "counter-space operations".

IMPACT OF THE GULF WAR

The emergence of the technology-based battlefield, as China's leaders witnessed in the Gulf War, made another impact on the operational doctrine of the military. In the war, military leaders saw the coalition forces pummel the Iraqi military. Since much of the Iraqi equipment was Chinese-made, the leaders saw that a Revolution in Military Affairs (RMA) had truly occurred. Sophisticated weaponry such as precision-guided bombs; stealth technology; airborne command and control systems; space-based intelligence; early warning systems; coordinated naval, air, and surface attacks; and real-time command, control and communications capabilities made the PLA's leaders develop a doctrine of "limited war under high-tech conditions." The Gulf War reinforced the PLA's acceptance of the notion that Mao's doctrine of "people's war" was indeed dead.

Therefore, the PLA shifted its military strategy to one of force projection to defend the country outside China's borders, incorporating advanced weaponry to fight this so-called "limited war under high-tech conditions."

Chinese strategists surmise "a future war would be localised, fought to achieve limited political objectives, and won by whichever side is better able to concentrate high-technology force at some distance from the national borders." To accomplish this strategy, China must incorporate a complete change in the way its military is structured. Therefore, this quest for modern weaponry has become vastly important for the military. In fact, equipment modernisation has become the PLA's most important priority.

ACQUISITION PRIORITIES

These changes to Chinese military strategy shift priorities to acquisition of a force projection capability specifically by acquiring advanced air defence systems, anti-ship defences, and advanced aircraft and naval weapon

systems. The PLA has identified key mission areas and the weapon systems it must acquire to develop this capability:[11]

- Developing anti-submarine warfare.
- Acquiring shipborne air defence.
- Building naval capabilities (ships, submarines).
- Developing equipment for amphibious operations.
- Developing and fielding modern attack aircraft.
- Developing and building strategic airlift and air refuelling capability.
- Building modern precision-guided munitions.
- Developing and fielding modern stand-off weapons such as cruise missiles.
- Developing and fielding modern command, control, and communications capabilities.

Chinese leaders have placed these force projection modernisation efforts at the top of the military's priorities. The PLA leaders recognise that they need robust command, control, and communications systems, coupled with precision munitions, if they are to compete with modern military forces. China's intention is to build these systems indigenously. So Beijing is beginning to allocate additional money to the state-run defence industries in an attempt to convert them into modern weapons producing industries.[12]

China incorporated these new indigenous defence production priorities into their overall military modernisation programme in 1992. China's effort toward self-reliance has been particularly acute. China has traditionally lagged behind other major weapons producers in terms of technological development, in part a function of the country's reluctance to become overly dependent on foreign suppliers. Today, as production goes global and technology spirals upward in cost and sophistication, the Chinese defence industries can ill afford such a parochial understanding of international

11. Richard A. Bitzinger and Bates Gill, *Gearing up for Hi-Tech Warfare, Chinese and Taiwanese Defence Modernisation and Implications for Military Confrontation Across the Taiwan Strait, 1995-2005* (Washington D.C: Centre for Strategic and Budgetary Assessment, 1996), p. 8.
12. Ti Chagchu, "Defence Industries Help Country," *China Daily*, September 16, 1997.

China's military modernisation effort, in contrast to its economic reforms, has been slower than what most Western estimates of the early 1990s had claimed.

relations.[13] Therefore, to enable China to project force as required by the new national defence priorities, it must first modernise its defence industries and manufacturing processes. To become self-reliant in the manufacture of modern weaponry, it must first seek help from other weapons producing nations. However, until the mid-1990s, Beijing had been hesitant to fully seek this "outside" assistance.

CONCLUSIONS ON MILITARY MODERNISATION

China's military modernisation effort, in contrast to its economic reforms, has been slower than what most Western estimates of the early 1990s had claimed. The economic boom and the resulting shift in national priorities from military modernisation to economic reform caused a fundamental change in thinking among both the leaders and much of the population. They now conclude that the key to becoming a regional and world power is not through ideology or military might; it is through a strong, thriving economy. Therefore, they want to avoid any type of conflict short of a direct threat to their sovereignty. Although they are embarking on a robust military modernisation programme to build a force that would be on par with other modern nations, they are not preparing for a superpower conflict. Instead, China's leaders are concerned with internal security and regional influence, specifically blocking Taiwan's independence and laying claims to territory in the South China Sea. Although smaller than originally planned, they have earmarked double digit increases in defence spending to modernise their defence industries and military. Most of the increase in defence spending has gone to salary hikes to the officer corps, to an increase in quality-of-life programmes, and to offset inflation. In addition, they have lost revenue from arms exports following the Gulf War, and the PLA run enterprises are not producing enough income for modernising their industries. Therefore,

13. Bates Gill, "The Impact of Economic Reform Upon Chinese Defense Production," in C. Dennison Lane, et al. eds., *Military Modernization* (London: T.J. Press, 1996), p. 145.

China's indigenous defence production capabilities have not improved. Also, Beijing cannot buy the quantities of foreign high-tech weaponry it needs to have the sustained force-projection capability it desires. The expense of these weapons systems is too great for China to afford. Also, since many spare parts come from other countries such as Russia, these parts are not always available. And whether obtained through domestic production or foreign sources, the absorption of advanced weaponry requires more advanced levels of education than the Chinese military currently possesses.

Impact on Military Capability

Overall, even with the slow pace of military reform, the modernisation effort has improved military capabilities to some extent. The PLA is slowly improving but "doctrinal and financial deficiencies will delay the PLA's ability to conduct sustained force projection for at least a decade." This power projection will be limited to the South China Sea and the Asian landmass. The modernisation of naval forces has enabled China to venture beyond the coastal areas, and may have given it the ability to blockade Taiwan. Therefore, China has accomplished at least one short-term objective of influencing the decisions of Taiwan's leaders. In addition, equipment modernisation of the air force has given the PLAAF the capability to intercept aircraft over mainland China. It is also cautious that even modest improvements in China's power projection capabilities could generate serious instabilities in the region. For example, a breakthrough in just one high-tech system, such as developing accurate cruise missiles, could give China a significant advantage in the region. While the equipment is old, there is a "certain quality to be found in quantity." This means that China is still a formidable force, and if regional countries engage it militarily, and China is able to absorb large losses in men and equipment, then its limitations in high-tech weaponry would be relatively meaningless.

IMPLICATIONS FOR THE UNITED STATES AND THE REGION

While China's defence modernisation efforts have not yet produced a significant offensive force projection capability, it still may make significant

progress in the medium to long term. This would change the balance of power among nations of the region. Will China use this future capability to bully weaker states or use force to absorb Taiwan into the mainland? This question, along with many others, is difficult to answer given the nature of Chinese international relations. Consider the contrast between the China that is the world's fastest growing economy, and the China that is on the verge of peasant rebellion and worker unrest.

The US and the nations in the region should formulate a foreign policy regarding China keeping two factors in mind. First, the US cannot be sure about China's intentions; rather, it must react to, and deal only with China's capabilities. Secondly, accept the fact that the national interests of the regional nations, the US, and China, differ significantly. Sometimes these interests will conflict. As such, the regional actors should not regard China as an enemy, but merely another regional actor, albeit one with a different agenda. Regarding China's future capabilities, it is clear that with continued modernisation efforts, it could develop adequate force projection capability in the coming decades. In addition, China will be able to:

- Conduct low-level exercises and stage at-sea confrontations.
- Set up a naval blockade of Taiwan and other regional islands.
- Perform limited, regional missile attacks.
- Conduct limited offensive air strikes.

The US and regional players must develop a force structure to effectively deal with these increased military capabilities. In addition, they can take measures to ensure the continued peaceful coexistence of countries in the region through diplomatic and economic means.

Regarding the second factor, the best way to ensure continued growth and peaceful coexistence in the region is to engage China in all diplomatic, economic, and regional security concerns. The US should not regard China as its enemy, but as an extremely large trading partner. The policies should involve continued encouragement of China's cultural and economic relationships with neighbouring countries. The regional powers should show a willingness to consider China's objectives as long as Beijing also

respects the interests of other parties. In addition, the US and regional countries should explore the possibility of including China in a multilateral, regional security arrangement. However, all nations should resist advanced technology arms sales to China. This will make the Chinese military modernisation more difficult and will allow additional time for the US and regional actors to establish multilateral diplomatic, economic, and security arrangements.

Transfer of the technologies associated with fourth generation aircraft like the Su-27 and J-10 reaching Pakistan would alter the existing military balance in South Asia.

IMPLICATIONS FOR INDIA

From present indications, apparently China will require until about 2015 for its military modernisation programme to produce a modern force capable of defeating a moderate size adversary. However, that would be cold comfort for a nation like India and other states in the Southeast Asian region, since one needs to plan for capabilities and not intentions. China has repeatedly proclaimed its intentions of peaceful coexistence with all its neighbours and peaceful rise as an economic power for the well-being of its people. But will such intentions lead to economic and military coercion to achieve its goals, and for India, military coercion or conflict, since India's case with respect to China is one of economic competition and not dependence?

China's possession of strategic bombers and long range cruise missiles will enable it to overcome the existing detection capabilities of India. The geographical sphere of influence that would be enabled by a massive build-up of Short Range Ballistic Missiles (SRBMs), Medium Range Ballistic Missiles (MRBMs) and Intercontinental Ballistic Missiles (ICBMs), long range strategic bombers like the Tu-22M, long range submarines, and extended reach of modern combat aircraft through aerial refuelling and space capabilities, is indicative of a long-term aim of becoming a dominant military power in Asia and, subsequently, in the whole world. Of immediate concern to India should be the consequences of increasing Sino- Pak military cooperation. Even though China has refrained from giving Pakistan access

With Indian society becoming increasingly dependent on automated data processing and vast computer networks, India will also become extremely vulnerable to such information warfare techniques.

to the latest technologies available with it, such a restraint may not be given in the future. Transfer of the technologies associated with fourth generation aircraft like the Su-27 and J-10 reaching Pakistan would alter the existing military balance in South Asia, and India would have to cater for two increasing threats, one of short-term implications and another of long-term implications.

Even though China has not invaded another country after the 1979 War with Vietnam, it has a history of territorial acquisitions, beginning with Xinjiang, through Tibet, Indian territories in Aksai Chin and Arunachal Pradesh and occupation of various islands in the South China Sea, which have been claimed by other littoral states of the area. It has also never hesitated to use military force to coerce or intimidate if it feels that its repeated warnings have not been heeded, as in the case of the Indian invasion in 1962, the Vietnam invasion in 1979, and the missile tests over Taiwan in 1995. Based on these assumptions, there are a few questions that the defence planners of India need to address. These are specific to capabilities and are just a few among many.

With regard to cyber warfare, in another five to ten years, China will develop much greater depth and sophistication in its understanding and handling of information warfare techniques and information operations. With Indian society becoming increasingly dependent on automated data processing and vast computer networks, India will also become extremely vulnerable to such information warfare techniques. The fact that it can be practised from virtually any place on earth even during peace-time makes acupuncture or paralysis warfare even more diabolical. India can ill-afford to ignore this new challenge to its security.

The strategy must be defensive to guard India's vulnerable assets, such as military command and control networks and civilian infrastructure dependent on the user of cyber space, as well as offensive to disrupt the adversary's C412SR systems and develop leverages that can be exploited

at the appropriate time. With some of the finest software brains in the world available to India, it should not prove to be an insurmountable challenge.

CONCLUSION

Considering China's military modernisation drive, including its ambitious enhancement of aerospace capabilities, the obvious point that comes to the fore is whether the Indian armed forces at present force levels will continue to deter the PLA in the future. A simple comparison of the force levels as they exist today and the extended sphere of influence that China would acquire through its planned inductions in the future, say by 2020, make it amply clear that based on India's present planned acquisitions, the answer is no.

Taking into account the existing prowess in long range missions, the Indian Air Force (IAF) may be a deterrence in certain areas which are far away from Chinese territories,[14, 15] but due to the fact that China has acquired a far greater number of combat aircraft of the Su-30 class than India and that its rate of acquisition of other modern weapon platforms is also faster than that of India, India's operational potential in the near boundaries of China is increasingly being called into question. A rapid modernisation in the spheres discussed so far will enable China to take a leap ahead of India in extending its influence in most of the areas of interest to it.

The present planned acquisitions of 126 more multi-role combat aircraft as replacement for an ageing MiG fleet and the induction plan of Tejas would eventually see a smaller IAF with about 37 plus combat squadrons by 2020, which may be highly inadequate for future contingencies. Also, the induction of the FGFA, being jointly developed with Russia, is also expected around the same time-frame. Though the recent statement by our Raksha Mantri (RM) does indicate that the government is keen to increase the sanctioned strength up to close to 45 squadrons.

14. Joseph, n. 8, p. 30.
15. Ibid., p. 13.

Also, this induction has to be supported by aerial refuelling aircraft, AWACS, ISR capabilities both space-based and near earth-based [in the form of Unmanned Aerial Vehicles (UAVs) and other surveillance platforms] and greater strategic and tactical lift capabilities.

INDIAN ACQUISITION OPTIONS FOR CREDIBLE DETERRENCE

The acquisitions could be by way of outright purchases, which limits the options in economic and political terms, or through indigenous capabilities which at the moment are nowhere in sight, unless major reorientation and refocussing of our design and development capabilities take place, or probably the best solution of all, a combination of the two till India acquires credible and sustainable indigenous capabilities. The proposed list would be:

- Space, air and surface-based ISR capabilities.
- Systems to enhance C4 capabilities.
- Strategic bombers.
- Heavy and tactical lift aircraft to provide strategic reach.
- Larger number of AWACS than presently planned to provide realistic air space cover in multiple theatres.
- Additional aerial refuelling aircraft.
- Anti-missile defence systems.
- Precision weapons.
- Improved communication systems and networking.
- Long range and silent submarine force armed with cruise missiles.
- Amphibious capability.

Finally, although long periods of peace and stability provide a nation and its leaders the means to concentrate on socio-economic and scientific development and thereby achievement of prosperity, assuming that prosperity and statements of intentions of peaceful coexistence in a cooperative environment would rule out conflicts in the future would be a great folly. India has witnessed the humiliating results of being lulled by blind belief in such declarations of friendship in the past.