MILITARY MODERNISATION IN CHINA: SOME IMPLICATIONS FOR INDIA

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The politico-economic development of a nation requires it to envisage the course that it needs to chart out in the international comity of nations and understand its proper place in it, especially with respect to its competitors, neighbours and also, extra-regional influential players. It is a well understood fact that a nation's influence in the world arena is governed by its economic and military strength and its political will to use these two key components of a triad of national power. Military might alone may have won wars for nations in the past, but if recent history is any indicator, a nation which relies solely on its military might to back up its political power, cannot sustain its influence for long, as in the case of the erstwhile Soviet Union. Military might must flow from economic strength. Japan, which is not a military power, has wielded considerable influence internationally in the past and continues to do so. On the other hand, China did not have such kind of influence till recently because of its economic and technological backwardness, though it had a very large military force. However, the recent phenomenal rise of its economic fundamentals based on the development of a modern, technology backed industrial base and the subsequent ongoing modernisation of its armed forces, has given a fillip to its global influence. The world has been taking note of this and a major portion of the USA's international diplomatic effort of late has been devoted to engaging China and containing its growing influence as a future superpower in the making. Since India too is another acknowledged future economic power in the making, it is important for its armed forces to understand

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and analyse this evolution of China, especially its military power. The case becomes all the stronger in view of the strong defence and strategic relations that China has with Pakistan. All available indications point towards a continuation of the strong Sino-Pak strategic relationship and, therefore, Pakistan is likely to benefit from the technological advances in China's defence industry.

CHINA'S DOCTRINAL EVOLUTION

China has come a long way from the early days of "People's War" of Chairman Mao Zedong and the modified doctrine of "People's War Under Modern Conditions" of the early 1970s (which incorporated the employment of strategic and tactical nuclear weapons, though with a "no first use" policy). The virtually unopposed success of the US and its allies and the overwhelming technological superiority displayed by the US Air Force in the Gulf War of 1991 came as a rude awakening to Chinese strategic thinkers and the People's Liberation Army (PLA). Out of this exposure to the inevitabilities of modern technology-driven warfare emerged the doctrine of "Winning Limited Border Wars by Means of Modern Know-How and, in Particular, Under Conditions of High Technologies," which was formulated as its defence strategy in 1993. Long years of isolationist policies, overdependence on outdated early Soviet Union-era technologies and poor economic fundamentals till the late 1980s created a huge gap in the capabilities of China's technology base with respect to the Western world. A determined drive by the Chinese leadership, spearheaded by the ideology of the late Deng Xiaoping which itself was born out of pragmatism, has witnessed the incessant march to acquire modern technologies for its armed forces, to help it realise its aim of becoming a world power. Downsizing the strength of the PLA (by 1.5 million since the mid -1980s, and further by another 200,000 between 2003 and end 2005) to a strength of 2.3 million,[1] acquiring cutting edge technologies from the Western world and Russia, China has been engaged in a feverish drive to enhance its missile and space capabilities, a demonstrated desire to extend the reach of its navy and air force to areas far beyond the close borders and

1. 2004 White Paper on National Defence, published by the State Council Information Office on December 27, 2004, available at http://www.peoplesdailyonline.com, last accessed on October 20, 2005. The White Paper is the fifth in a series of documents, since 1995, on the state of China's security concerns, defence policies and military modernisation in the context of international strategic environment. The previous one was released in 2002.

littoral waters, and the frenetic pace at which information technologies and technologies that enhance command, control, computers, communication, intelligence, surveillance and reconnaissance (C^4ISR) systems are being adopted is indicative of this.

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"ACTIVE DEFENCE" AS DEFENCE STRATEGY

Even though changes in the national defence strategy have been known to the outside world over the years, albeit with considerable delays, a clear insight into China's national strategy is not easily available. The annual report on the military power of the People's Republic of China (PRC) by the Department of Defence (DoD) of the USA in 2005, states, "China's leaders view the military instrument as playing a central role in support of national goals and objectives. China's strategy for the employment of the military to support these goals, or the conditions under which China's leaders would select military over non-military methods in problem solving, however, is less clear."[2] Various published articles by Chinese defence scholars since the time of Mao talk about the concepts of "active defence" and "high-tech local warfare" as the PLA's doctrine. "Active defence", when loosely defined, implies tactically offensive action with defensive strategy. It declares a defensive strategy and asserts that "China does not initiate wars or fight wars of aggression, but engages in war only to defend national sovereignty and territorial integrity and attacks only after being attacked." However, Beijing's definition of an "attack" on national territory or sovereignty, or what constitutes an initial attack remains vague."[3] If the two wars fought by China, with India

China's leaders view the military instrument as playing a central role in support of national goals and objectives.

2. Annual Report to the Congress, "The Military Power of the People's Republic of China 2005," Department of Defence, USA, available at http://www. last accessed on November 3, 2005.
3. Ibid and FY 04 Report to Congress on PRC military Power, DoD, USA.

in 1962 and Vietnam in 1979, are any indication, China may consider any kind of intrusion into, or opposition to, what it considers as national interest or internal affairs, as an attack on its national sovereignty and thereafter, active defence would take a distinctly offensive form.

While the doctrine of People's War had "luring the enemy deep into own territory" and then annihilating him as the main theme, the present doctrine highlights coercive war-fighting strategies. A very crucial factor in the present doctrine is creating shock and surprise to intimidate and coerce the enemy. The PLA plans to achieve the wherewithal to be able to create shock and achieve surprise at the beginning of the campaign itself. The PLA's operational doctrine talks about "actively taking the initiative" and "catching the enemy unprepared" to achieve the effect of surprise. While actively taking the initiative indicates preemptive strike with great force, "catching the enemy unprepared" employs means of camouflage and deception (political, military and strategic) to conceal own intentions and thereby achieve dominance over the enemy in the initial stages itself.

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The wars with India and Vietnam as well as the skirmishes in the 1990s with the latter over Spratly Islands are a continuation of China's long history of using its military power for coercive purposes and nothing may stop it from resorting to this in future as well, to intimidate those who are a threat to Chinese interests.

Notwithstanding the above, Chinese leaders over the last two decades have repeatedly emphasised that China plans for a peaceful rise and existence as a world power and that it desires to shape the security environment with its neighbours in a positive manner to ensure peaceful coexistence. "China will never go for expansion, nor will it seek hegemony," states the 2004 National Defence Paper.[4] China has been emphasising the use of "soft power" over

4. n. 1.

military power as a means of achieving policy aims. However, a recent legislation authorising the use of military force against Taiwan represents a clear break from this policy[5] and has ominous portends for China's neighbours as China realises its goal of becoming a powerful global player.

STRATEGIC DECEPTION

The 2005 Report of the DoD to the US Congress reports a resurgence in the study of ancient Chinese statecraft within the PLA and goes on to say "... military academies teach the precepts of *moulue*, or strategic deception, derived from Chinese experience through millennia ..."[6] In fact, deception has been a trademark of China's entry into military conflicts with India, Vietnam and the Soviet Union and the revival of interest in such studies is indicative of the trends for future conflicts that may arise. Deng Xiaoping gave a "24 character" guidance to China's foreign and security policy in the 1990s. It states, *"Observe calmly; secure our position; cope with affairs calmly; hide our capacities and bide our time; be good at maintaining a low profile; and never claim leadership and make some contributions."* The Pentagon suggests that "the strategy suggests both a short-term desire to downplay China's ambitions and a long-term strategy to build up China's power to maximize options for the future."[7]

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One should not expect any perceptible changes in the time-tested Chinese art of deception, as taught from the days of Sun Tzu, in the future too. In fact, this would remain the very basis of China's strategy, be it in its desire to effect reunification of Taiwan with the mainland, or in the scenario of economic competition with its neighbours, including India, or in strategic manoeuvring to exercise influence in the whole of Asia. Its manoeuvres to influence the

5. Dr Karlo Kopp, "China's Rise as a Regional Superpower," *Air Power Australia Analyses*, APA-2005-03, May 19, 2005, p. 10.
6. n. 2, p.16.
7. Ibid., p.11.

member nations of the South Asian Association for Regional Cooperation (SAARC) in November 2005 to accept it as an observer to the association, comprised a clear case of deception in diplomacy, which, as it appears, had taken New Delhi by surprise.

UNDERSTANDING 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*. In the paper, China identifies four key security concerns, even though it states that the overall national security environment in the modern world has improved. These are:[8]

- The "vicious rise of Taiwan independence" forces.
- The technological gap resulting from the RMA (revolution in military affairs).
- The risks and challenges caused by the development of the trends towards economic globalisation.
- The prolonged existence of unipolarity vis-a-vis multipolarity (a reference to the USA).

The paper further states China's basic goals and tasks in maintaining national security as:

- 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 in an all-round, coordinated and sustainable way and steadily increase the overall national strength.
- 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 improve the operational capabilities of self-defence under the conditions of "informationalisation."
- To safeguard the political, economic and cultural rights and interests of the

8. n. 1, chapter I, p.4.

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 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. In a section dedicated to RMA, the paper amplifies China's intentions of developing capabilities associated with RMA with "Chinese characteristics" with "informationalisation" as the core, obviously, a reference to adopting information technologies. Towards this achievement of RMA, modernisation of its navy, air force and Second Artillery Force (China's missile forces, both nuclear and non-nuclear) has been highlighted as a key thrust area. Another key aspect is the 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 planners believe that future campaigns will be conducted simultaneously on land, at sea, in the air, space and electronic medium. 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 C^4ISR network, a new command structure, and a new integrated tri-Service (joint) logistics system.

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While the overriding concerns expressed in the White Paper are about Taiwanese separatist forces, the need for modernising its armed forces, especially the Second Artillery Force, People's Liberation Army Air Force

(PLAAF) and People's Liberation Army Navy (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,"[9] and later to indicate cooperation in anti-terrorism operations and conduct of the exercise with the Indian Navy in November 2003.[10] Obviously, India at the moment is not a strategic concern for China in the near future. But is the converse as true?

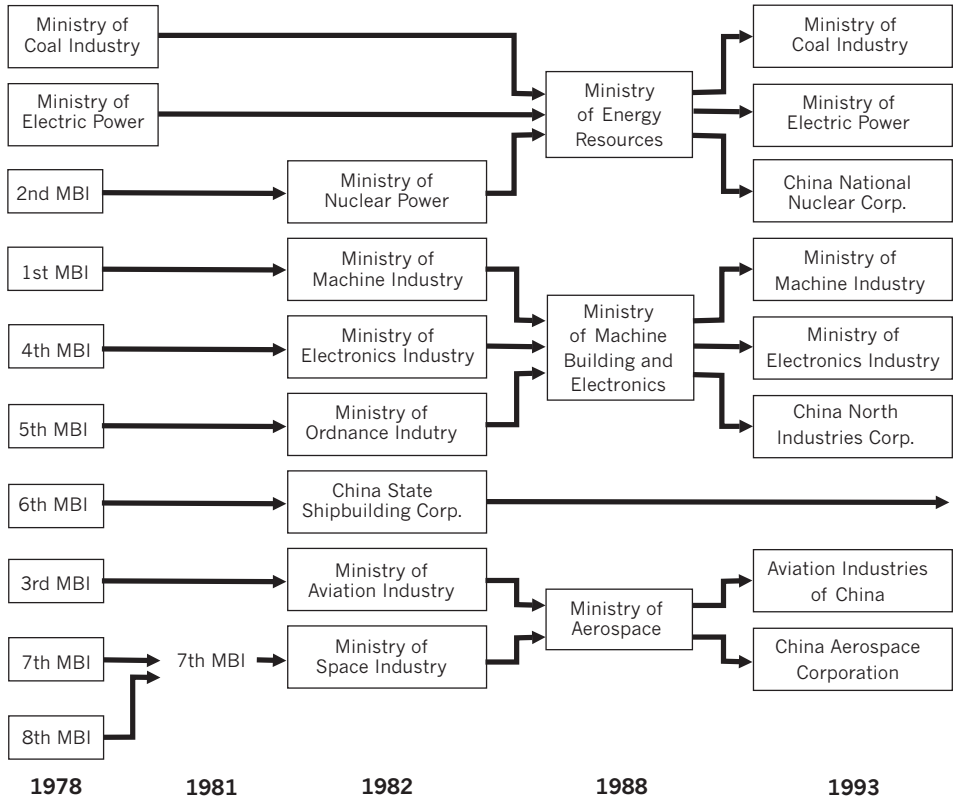
DEFENCE INDUSTRY REORGANISATION OVER THE YEARS

The Chinese defence industry was first modelled on the lines of the erstwhile Soviet Union. Soviet assistance and transfer of technology during the early years of Sino-Soviet friendship was liberal but restricted to one to two generations behind the Soviet Union's own technologies. The break-up with the Soviet Union in the 1960s put an end to this flow of technology and China was forced to embark upon a course of reverse engineering which led to a continued existence in technological backwardness through much of the 1970s and 1980s. Before the 1980s, China's defence industrial complex consisted of a series of Machine Building Industries (MBIs) which looked after its major defence sectors like nuclear weapons, aviation, aerospace (space and missiles), shipbuilding, electronics, and ordnance (tanks, artillery, etc.). The evolution of its defence industry organisation till the reorganisation in 1993, as depicted by the RAND Corporation is given at Fig 1.[11] As indicated from the figure, these changes appear to be more cosmetic in nature and obviously did not yield the desired results. It is stated that the defence industry ran at a net loss for eight consecutive years from 1993 to 2001.[12]

1998 witnessed the latest comprehensive reorganisation of the defence industry. Two major reforms were the civilianisation of the Commission for Science, Technology and Industry for National Defence (COSTIND) and the creation of a new department under the PLA known as the General Armaments Department (GAD). While COSTIND changed from an arms procurer and

9. Ibid.
10. Ibid., chapter IX, p.44.
11. RAND Corporation, *Modernizing China's Military: Opportunities and Constraints*, (Santa Monica: RAND Corporation), 2005, p.149.
12. Ibid., p.141.

Fig. 1. Reorganisation of China's Defence Industries 1978 - 1993.



Source: RAND Corporation, "Modernizing China's Military: Opportunities and Constraints," 2005.

defence industries enterprises manager to a coordinator between the uniformed military and defence industrial enterprises, GAD assumed the erstwhile responsibilities of COSTIND i.e. military procurement and additional responsibilities of logistical procurements.

The RAND Corporation reports that this reorganisation has "...firstly, centralized China's military procurement system, and... secondly, has separated the builders from the buyers...,"[13] thus, improving the procurement system. This bifurcation of responsibilities is reported to have resulted in further complications which the Chinese leaders have sought to resolve in the early 2000s.

13. Ibid., p.164.

Some beneficial consequences of these reforms have been, firstly, the willingness to accept capital from other firms and foreign buyers to fund projects. An example is Pakistan's funding of the FC-1/Super-7 light fighter programme. Secondly, there has been an expansion of partnerships with civilian universities and research institutes to improve educational training relevant to military technologies. And, thirdly, COSTIND and GAD have initiated promotion of research and development (R&D) and production cooperation among defence enterprises located in various provinces.[14]

DEFENCE INDUSTRY CAPABILITIES

Reorganisation of the defence industrial sector, modernisation of the industry through massive infusion of capital to introduce modern technology in the design and manufacturing process and introduction of competitive bidding among state owned companies themselves have enhanced the quality of China's defence products. Such qualitative improvements contribute to corresponding military-industrial capabilities. One of the sectors that has seen tremendous advances in the past two decades is the information technology (IT) sector. Although not part of China's official defence industrial complex, IT has provided a substantial boost to the PLA's efforts towards creation and integration of C^4I capabilities, the most critical part of its joint operation doctrine, through breakthroughs in telecommunications, supercomputers and fibre optics.

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From decades of copying Soviet era technology of the 1950s and 1960s, China's aviation industry is today producing third generation fighter aircraft and is on the verge of successfully designing and producing fourth generation combat aircraft, though with substantial foreign, especially Russian, assistance. Its first indigenously

14. Ibid., pp.169 - 171.

designed combat aircraft (JH-7 and JH-7A) entered service recently. Russian armament industry experts have disclosed that China is close to mastering the complex skills required to build the AL-31 engine of the Su-27 combat aircraft.[15] This implies that China's dependence on other nations for engines for its indigenous fighter programme will reduce considerably. However, many gaps are yet to be bridged. The RAND Corporation, in its study of China's arms industry, reports that though China is "reducing the gap in technology with the world's most advanced countries; it shows no signs of achieving parity in the foreseeable future."[16] China is yet to produce an indigenous helicopter and so is the case with respect to production of large transport aircraft and heavy bombers.

Another area where China has progressed by leaps and bounds is its shipping industry. Today, it produces a wide range of highly sophisticated naval platforms using modern design methods, production technologies and management procedures and is the world's third largest producer of commercial ships. The knowhow acquired through Western technology in commercial shipbuilding will automatically benefit China's naval production. However, it is reported that China still lacks the capability to build critical naval sub-systems, which limits its overall capability to produce war-fighting naval vessels.

Various defence publications talk about the strides made by China in its missile industry towards the end of the last century and through this century. It is considered the most successful story of China's defence industry. Its products are now reaching a level where they are comparable in quality to those of Western nations. As a by-product of its success in space technology, China is able to manufacture solid fuel conventional ballistic missiles which are increasingly more reliable and accurate. It is in the process of developing more accurate and longer range ballistic missiles, land attack cruise missiles (LACMs) and long range surface-to-air missiles (SAMs) of the US Patriot / Russian S-300 class. Its "Ying Ji" series of anti-ship cruise missiles are comparable in quality to French

15. *SIPRI Yearbook-2005*, p.423.
16. n. 11, p.189.

Exocets and American Harpoons.[17]

The advances made in the defence industrial capabilities have been attributed to the infusion of capital for improving the quality of its physical assets i.e. factories, production equipment, etc. The progress in its defence industrial capabilities will help China to hasten its drive in modernisation of its armed forces.

MODERNISATION DRIVE

China's drive to modernise its armed forces has emerged out of the post-Cold War realities of a unipolar world and the necessity to enlarge its sphere of influence in order to protect the needs of a growing hungry economy. A rapidly increasing national wealth has helped China pursue the single largest arms buying spree not seen since the substantial Soviet build-up during the Cold War. Western analysts believe that China's actual defence expenditure is two to three times greater than the publicly disclosed budgets and that its defence sector could receive up to US $90 billion in 2005, against a publicly disclosed estimate of approximately US $29.9 billion.[18] The publicly disclosed figure for 2005 itself represents a two-fold jump over the budget of 2000.

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The heavy investments in its defence industries during the 1990s and reorganisation of the PLA have helped China acquire many modern technologies for manufacturing weapon systems. However, it is believed that China has not yet mastered the ability to go through the research, development and acquisition process for sophisticated weapon systems without foreign assistance.[19] As a result, China has had to depend heavily on Russian and Israeli assistance to develop and manufacture modern technology weapon systems. For example, the J-10 fighter aircraft, which is reportedly about to enter production stage, is based

17. Ibid., p.185.
18. n. 2, pp.21-22.
19. Ibid., p.24.

on the scrapped Israeli Lavi project, which itself was based on the US F-16.

The *SIPRI Yearbook* 2005 reports that the "original restrictions on the levels and types of technology that the Russian government was willing to sell to China appear to have been relaxed. Russia is now selling systems to China that only a few years ago the Russian military establishment was hesitant to even discuss..." Further, it states that "in some cases such as the Su-30 MKK2 and Su-30 MKK3 combat aircraft, Russia has sold China more advanced weapons than those used by the Russian armed forces."[20] Various analyses indicate that China has reached a stage where it has the capability to manufacture weapon platforms, thanks to Russian technology, but it is still at least two decades behind as far as the technologies for systems, especially radars, electronic warfare, precision weapons, propulsion, etc are concerned. Considering that Russian arms exports to China account for 41 per cent of its total arms exports and 95 per cent of China's imports, the possibility of lifting of the European Union (EU) embargo on arms export and technology transfer to China may force Russia to authorise the export of even more sophisticated weapons to China.[21] For India, this has strategic implications related to its own position vis-à-vis China and the close liaison between China and Pakistan in arms manufacturing and technology.

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As has been repeatedly elicited in its biannual defence White Papers, the PLA's primary aim is to develop capabilities to prosecute the unification of Taiwan with mainland China. The PLA seeks four categories of capabilities, which, though unstated at the moment, are bound to have major implications for

20. n.15., pp. 422-425.
21. Ibid.

its other neighbours in Asia. These are:[22]

1. The capability to respond to threats by taking the initiative, preventing escalation, attaining superiority and resolving the conflict on China's terms.
2. Development of power projection capability to facilitate sea presence and area denial.
3. The ability to conduct short-range preemptive strikes using conventional missiles and air force assets.
4. The development of strategic missile capability to deter other nuclear powers from being able to coerce China.

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 (anti-access capabilities as reported in the White Paper of 2004), the first aspect is developing a true blue water capability which China lacks at the moment. Towards this, China is acquiring a new generation of modern naval combatants, both surface as well as sub-surface, is improving capabilities in air defence at sea, anti-submarine warfare and anti-ship missiles, and is procuring quieter conventional submarines along with advanced torpedoes and cruise missile capabilities, and larger and more modern air assets. These are being acquired mostly in the form of latest Russian technologies. Major purchases and future proposals for PLAN are listed below.[23]

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- Sovremenny class destroyers (two acquired and two more likely) along with SA-19 Grisom and SA-17 Grizzly SAMs for its air defence (AD) systems, SSN-

22. n. 11, p.200.

23. The information on arms procurements given here onwards is culled from various sources like *SIPRI Yearbook 2005*, *Air Power Australia Analyses* APA-2005-03 - China's Rise as a Regional Super Power, Pentagon's Report on China's Military Power - 2005 and other sources.

22 anti-ship missiles (ASM), besides many other modern systems.

- Eight Kilo class submarines along with SSN-27 Klub class ASMs.
- Plans to manufacture submarines with quieter air independent propulsion technologies in future.
- 24 Su-30MKK2 naval attack versions already acquired.
- China is introducing the Type 093 nuclear attack submarines, providing capacity to interdict shipping lanes and deliver cruise missiles globally.

The PLAAF is replacing older fighters with third and fourth generation aircraft outfitted with long range, precision strike weapons for land attack and anti-ship missions and, in some of these aircraft, inflight 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 Tupolev Tu-22M3 and Tu-95MS strategic bomber aircraft. Its plans to acquire and produce airborne warning and control system (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:

- Three, possibly six, A-50 Mainstay (based on IL-76 aircraft) AEW&C aircraft, with delivery commencing from 2005.
- 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 will be 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 (four and eight respectively, delivery in 2005-06), besides large numbers of SA-10 SAMs.

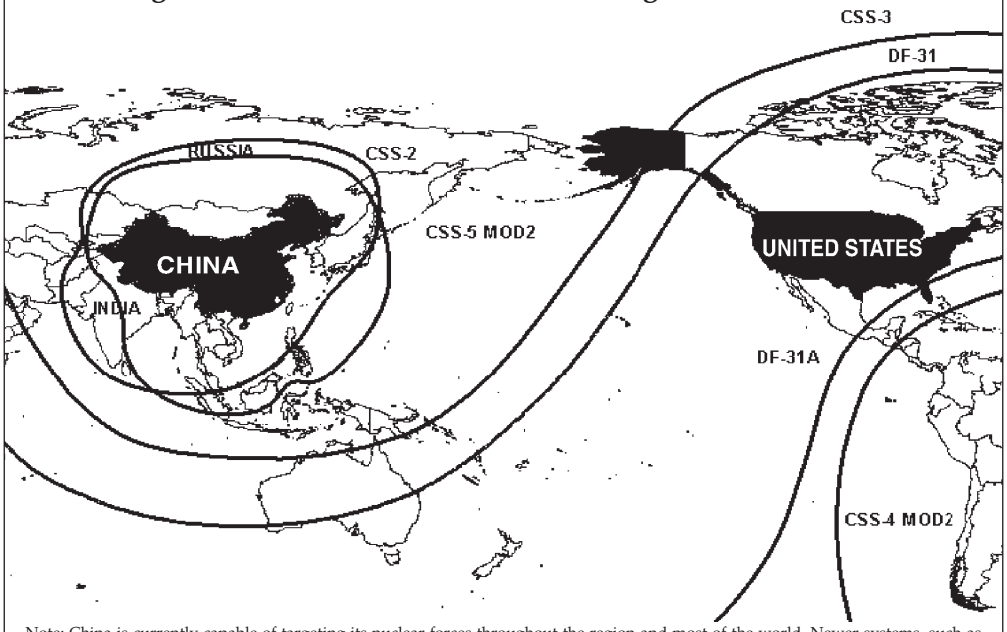
- Indigenous manufacturing of long range cruise missiles similar to the US RGM -109 Tomahawk and has reportedly acquired samples of Russian Kh-55 "Granat" or "Tomahawk-ski" air launched long range cruise missiles (LRCMs) for reverse engineering.
- Restarting production of the indigenous Xian H-6 Badger bomber aircraft, in a new configuration capable of carrying four long range cruise missiles.
- Fourth generation combat aircraft 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. Its radar uses Russian technology and Pakistan has reportedly shown enough confidence in it to approve its fitment on the new F-1C / JF-17 fighter aircraft. Pakistan had earlier relied on Western AI radars ("Grifo-7," for example) in preference to Chinese made ones.

China's modernisation in its strategic missile capabilities has resulted in qualitative and quantitative improvement, providing it with not only a second strike capability which it always professed, but also a credible and survivable nuclear deterrent. Its missiles are capable of targeting almost the entire Asia and Asia-Pacific theatre, including New Zealand and Australia, and most of the United States (Fig. 2). China has reportedly deployed one brigade of solid fuelled, road mobile DF-31 intercontinental ballistic missiles (ICBMs) and would shortly be deploying its advanced variant DF-31A (expected to be by 2007-09) and later the sea-based JL-2 sea launched cruise misiles (SLCMs). The DF-31 is expected to replace the older, less accurate and less survivable CSS-4 and CSS-3 ICBMs. The mobility of the DF-31 implies greater coverage and more survivability as it would be difficult to locate and neutralise these. China depends to a great extent on its short range ballistic missiles (SRBMs) of the CSS-6 and CSS-7 variety (Fig. 3). According to US Defence Intelligence Agency estimates, the PLA has between 650 and 730 of these missiles and its arsenal is growing at the rate of 75 to 120 missiles per year.[24]

Another area that has seen rapid progress and modernisation is China's

24. n. 2, p.29.

Fig 2. Medium and Intercontinental Range Ballistic Missiles



Note: China is currently capable of targeting its nuclear forces throughout the region and most of the world. Newer systems, such as the DF-31 and DF-31A, will give China a more survivable nuclear force.
Source: Annual Report to Congress on the military power of China by Department of Defence, USA, Year 2005.
(Not to scale. Boundaries are notional.)

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. There are reports of China being interested in, and developing, electronic intelligence (ELINT) or 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. Substantial R&D effort is on for attaining

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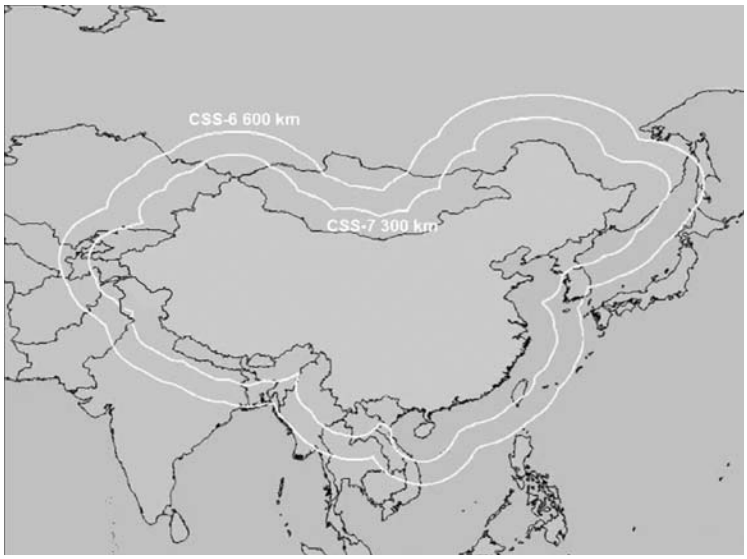
anti-satellite (ASAT) capabilities, beginning with the tracking and identification network to ground based laser ASAT weapons.[25]

Even though the strength of the ground forces has been reduced substantially, the pace of modernisation of the PLA is relatively slow, as compared to the other three Services. The ongoing efforts are towards achieving greater mechanisation and increasing the number of armoured and army aviation units. There are reports of the creation of a modern high-tech force within the army. It is reported that "the specialty of this modern force, about 15 per cent of the PLA, is to conduct lightning attacks on smaller foes, using an all-out missile attack designed to paralyze, and a modern sea and air attack coordinated by high-tech communications."[26] Obviously, such a force would form one of the key components, along with the missile force and modern air strike capability, of what has been termed as "Assassin's Mace" weapons.

Fig 3. Maximum Ranges for China's Conventional SRBM Force



Note: China's conventionally armed SRBM missiles are mobile and can be redeployed to support a variety of regional conflict scenarios.
Source: Annual Report to Congress on the military power of China by Department of defence, USA, Year 2005.
(Boundaries are notional.)

25. Ibid., p.35.
26. "Chinese Build a Hi Tech Army Within an Army," *Christian Science Monitor*, November 17, 2005, at http://www.csmonitor.com/20051117/p01s03-woap.html accessed on November 29, 2005.

IMPLICATIONS FOR INDIA

The US intelligence community estimates that China will require until the end of the current decade or later, for its military modernisation programme to produce a modern force capable of defeating a moderate size adversary.[27] We could assess this moderate size adversary to be Taiwan with the assistance of the USA. 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. An economic powerhouse with a military capability to match its economic might would force the neighbours in the immediate and near regions to view it with trepidation and respect at the same time. An increasing demand for natural resources could lead to conflicting interests with not only the USA, but also other developed and developing economies, especially Japan and India. China has repeatedly proclaimed its intentions of a peaceful coexistence with all its neighbours and peaceful rise as an economic power for the well-being of its people. It has made it clear that through this process it intends to claim its rightful place in the comity of nations in the world. There is nothing wrong with this and, in fact, the rest of the region should be glad about this. However, what is disconcerting is the intention to develop capabilities to counter the alliance between the USA and other countries of the region which has risen out of its strident concern about the USA's military cooperation with these countries, especially Japan and Taiwan. Once again, a concern that can be granted as a legitimate one of a rising regional power. 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? Will India be able to defend its legitimate interests and, if not, what capabilities does it need to acquire to be able to do so?

Even though it is argued that China's military build-up is intended to deter the US capabilities of supporting Taiwan and to coerce the latter into reunification, the capabilities that it is acquiring and is planning to acquire are far in excess of those required for such an effort. China's possession of strategic bombers and long range cruise missiles will enable it to overcome existing

27. n. 2, p.26.

detection capabilities of India, besides enabling it to bypass the USA's missile defence system which the latter has assured for Japan and its other allies in Asia. The geographical sphere of influence that would be enabled by a massive build up of SRBMs, MRBMs and ICBMs, long range strategic bombers like Tu-22M, long range submarines, 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 to the latest technologies available with it, such restraint in the future may not be a given. Transfer of the technologies associated with fourth generation aircraft like 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. Transfer of more modern missile technology, though China is a signatory to the Missile Technology Control Regime (MTCR), would be another destabilising factor. However, whether Pakistan would have the resources to acquire such high cost technologies or not is a moot point. An accelerated or a sustained high growth rate might enable it to. In any case, Pakistan has always cared for its military power more than its social responsibilities, and defence would always take priority.

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Today, China imports 70 per cent of its requirement of oil and 80 per cent of this valuable energy resource is shipped through the narrow Malacca Strait. Therefore, the relevance of security of the Malacca Strait becomes even more critical for China in the future, as it would be for other countries in the region. Possession of a modern blue water navy may make it easier for China to use coercion and denial to secure its interests in the Malacca Strait. This will have

repercussions on Indian interests too as our trade relations with the Near and Far East grow. It will be in India's own economic and diplomatic interest that it too develops a true blue water capable navy with an inherent air arm to be able to protect its own interests for the need that may arise one day.

China's rate of growth of 8-10 per cent sustained over two decades and an estimated double digit growth in defence expenditure for the corresponding period is something which cannot be matched by India. There are two reasons for this. Firstly, China's highly centralised economy and tight government controls enable it to spend such large sums on the development of globally strategic armed forces. Secondly, India's gross domestic product (GDP) being approximately about 40 per cent of China's today, is not likely to catch up with the latter's GDP for many years to come, unless there is a drastic slowdown in China's growth rate below the 5 per cent figure after a decade or so and India sees a sustained 8-10 per cent growth rate all the way, both of which may look unlikely now.

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 a few among many.

SOME QUESTIONS FOR INDIA

Are Indian Armed Forces a Deterrent to China Today? If so, can They Continue to Deter the PLA in the Future with the PLA's Modernisation Drive?

A simple comparison of the force levels as they exist today (end 2005) and the extended sphere of influence that China would acquire through its planned inductions in the future, say by 2015, make it amply clear that based on India's

The ability of a majority of the PLA's officer cadre and soldiers to adjust to the challenges of modern technology and demands of modern warfare till such time will have a bearing on its war-fighting capabilities.

present planned acquisitions, the answer is no. However, there is a question mark on the educational and leadership qualities of most of the PLA's officer cadre. Poor pay scales and living conditions as compared to the conditions in the civil outside have meant that the PLA is not able to attract quality talent available in the country for its officer cadre. Signs of corrective measures are evident in the defence White Paper of 2004, but it may take time for these remedial measures to bear fruit. The ability of a majority of the PLA's officer cadre and soldiers to adjust to the challenges of modern technology and demands of modern warfare till such time will have a bearing on its war-fighting capabilities. The creation of an elite modern force within the PLA consisting of highly educated young people is the beginning in this correction process.

What are Indian Capabilities in a Scenario of Conflict of Interest with China in Vital Sea Lanes of Communications (SLOCs) Today and in the Future?

Assuming the force capabilities as existing today, China may not have the ability to operate beyond the South China Sea. For India, on the other hand, the availability of a carrier battle group, though small sized by international standards, and mastery over long range missions with aerial refuelling gives it the ability to prosecute operations in its areas of interest, at least close to the Andaman and Nicobar Islands. What China lacks though is an effective C^4ISR capability in the area. To some extent, similar is the case with India too. This shortfall in many areas of interest is a serious limiting factor in India's and China's ability to conduct effective military operations in such areas. However, with China planning to acquire more long range nuclear submarines, aircraft carriers, AWACS, long range bombers, effective aerial refuelling capability and fifth generation combat aircraft in numbers several times those of India, the balance would definitely shift in favour of China in the future.

Is Indian Aerospace Power a Deterrence to the PLA today? What Does it Need to do to be of Deterrence for the Future?

Considering the existing prowess in long range missions as indicated above, yes, the Indian Air Force (IAF) may be a deterrence in certain areas which are far away from Chinese territories, 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 is only a replacement for an ageing and near obsolescent fighter fleet and further force reductions would eventually see a smaller IAF with about 35 combat squadrons, which may be highly inadequate for future contingencies. Therefore, India seriously needs to take a relook at an earlier projected requirement to build up to 50 squadrons of modern combat aircraft supported by aerial refuelling aircraft, AWACS, ISR capabilities – both space-based and near earth-based (in the form of unmanned aerial vehicles (UAV) and other surveillance platforms)—and greater strategic and tactical lift capabilities. Simultaneously, the inherent air arm of the navy too must be bolstered with at least two more aircraft carriers which would enable India to project and protect its interests in own distant island territories and elsewhere.

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Should India Develop/Acquire Enough Attack Submarines to Deter PLAN in the Future?

The PLAN's rapid modernisation, with the induction of long range, noise efficient submarines, lethal destroyers of the Sovremenny class and modern frigates would dictate that India dither no more on the plans to modernise its

India lags behind in both missiles and anti-missiles capabilities with respect to China and may find itself in a similar situation with respect to Pakistan if it does not accelerate its missile development programmes.

own maritime power and acquire greater indigenous capabilities in manufacturing such platforms. This only would ensure protection of India's increasing international trade interests and deter any potential coercive/intimidating powers. There is a need to back up increasing economic and political influence in the South and Southeast Asian region with adequate military strength to acquire the necessary balance of power in the region and to be respected as an influential player.

Can India Deter Increasing Missile Threats?

Deterrence against missile threats comes in two forms: one, in the ability to retaliate massively against such threats and, two, in the form of anti-missile capabilities. India lags behind in both missiles and anti-missiles capabilities with respect to China and may find itself in a similar situation with respect to Pakistan if it does not accelerate its missile development programmes. The plans to acquire the Israeli Arrow system or US Patriot system (the advanced version) as reported in the Indian media will be a step in the right direction. But more importantly, India needs to focus more meaningfully on its indigenous programmes and accelerate R&D and eventual indigenous production to be able to bolster capabilities in this field.

What is India's Ability to Counter China's Modernised Military in a Limited Border War Scenario?

With the increasing thrust on joint operations as a sequel to the lessons learned from operations of the allied forces' in the last decade and a half, the Chinese Army that the Indian Army may have to face in the Himalayas in the future will be entirely different from the one of earlier days. In the Chinese concept of "limited border wars under conditions of modern technology and

informationalisation," its adversaries need to be prepared for a rapid and massive onslaught of precision weapons through the medium of aerospace in a joint conduct of warfare. Unless Indian defence forces create the asymmetries needed to neutralise the effects of such weapons, in terms of anti-missile capabilities, camouflage and concealment to deceive, improved ISR capabilities, etc; and rewrite their doctrines of joint operations, with primacy given to the weapons suitable to the operational situation, this task would be an increasingly difficult one.

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Are India's Efforts at Joint Operations Adequate and How Important Would its Role be in the Future?

Even though considerable progress has been made in the past, due to many reasons related to inter-Services rivalry and lack of higher direction, India's ability to conduct true joint operations, as dictated by the needs of modern warfare, may be said to be inadequate. There is a need to not only strengthen this vital component of modern warfare, but also an even greater need to spell out clear doctrines, create efficient integrated structures and conduct realistic training for creating effective joint operations mechanisms.

Is the Threat Posed by Sino-Pak Collaboration a Challenge?

Acquisition of capabilities to match a greater expected threat would always cater for a smaller threat, especially if it comes from a country which may not have the economic wherewithal to sustain a reasonable pace of equipment modernisation. However, arrogance and complacency as by-product of a great power feeling is something that could blind any nation to realities and bring about its downfall.

What Does India Need to Acquire?

The list below may look like a wish list for expensive toys, but these are imperatives that go along with the tag of an emerging power if one's national interests are to be protected. 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 that would enhance C^4 capabilities.
- Strategic bombers with suitable strategic weapons like cruise missiles.
- Heavy and tactical lift aircraft to provide strategic reach.
- Greater number of AWACS than presently planned to provide realistic air space cover in multiple theatres.
- Greater number of aerial refuelling aircraft.
- Anti-missile defence systems.
- Precision weapons.
- Improved communication systems and networking.
- Long range and silent submarine force armed with cruise missiles.
- Carrier battle groups and modern aircraft for protection of the Andaman and Nicobar areas and other island properties, as well as vital SLOCs.
- Warships optimised for anti-submarine warfare and equipped to defend against supersonic cruise missiles.
- Amphibious capability.
- Creation of a modern amphibious force / marines.

But Can India Afford to?

Considerable amount of political and diplomatic manoeuvres can be seen to be taking place in the region towards establishing a greater degree of cooperation between India and China. This is obviously a step in the right direction and

would be a driver for greater politico-economic growth of the region as a whole and would enable Asia to be the centre of power in the world in the coming decades. 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. But 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. A nation will be respected only when it has the requisite military strength to back its political and economic strengths. And it is important for the leaders of India to remember this vital aspect of international diplomacy.

Military might without a firm economic base would not only be a big drain on a nation's economy, but also a dangerous tool in the hands of deviant rulers in a socio-economically backward state.

Notwithstanding the above argument, it would be an outright travesty of socio-economic justice if the Indian armed forces were to demand lethal capabilities at the cost of social and economic empowerment of the weakest in the society. Military might without a firm economic base would not only be a big drain on a nation's economy, but also a dangerous tool in the hands of deviant rulers in a socio-economically backward state. Therefore, military strength must be based on strong economic and social fundamentals and given the direction in which India is progressing today, acquisition of greater military prowess will be a prerequisite for the protection of the well-being of its citizens. In such a scenario, it will be a highly affordable requirement and the nation will demand it. It is important that India sets right its socio-economic inequalities, so that the poorest sections of the society also can take pride in being part of a great economic and political success story of the 21st century. The Indian armed forces then will have the right to demand the very capabilities that would be required to protect the interests of its enterprising people and of a great nation.