Military modernization in India and China

Charles F. Bingman

Abstract

The two great powers of Asia are arming. And it is not clear why.

1. The Indian Military

1.1. Introduction

With the almost universal preoccupation with the Chinese expansion and modernization of its armed forces, it is easy to overlook the major modernization of the military forces of India. Yet India has 1.3 million troops on active duty, backed by 2.3 million reserve forces, making it the second largest standing army in the world in terms of personnel. The Indian Navy, which may be the most important of the military services, has already been significantly expanded, and its 65,000 personnel on active duty makes it the fifth largest navy in the world. Similarly, the expansion of the Indian Air Force to about 170,000 personnel makes it the fourth largest air force in the world.

The Indian government, at great cost, is pursuing a major modernization program involving all aspects of its forces from command and control to force structural modernization, major upgradings of weapons, new unit missions, new training objectives and new communications technology. It faces problems of money, uncertain political backing and a lot of confusion over who they may be fighting and why.

Traditionally, the great opponent of the Indian military has been seen as Pakistan, and conflict with the Pakistani army is constant, ranging from small border insults to threats of nuclear holocaust. India and Pakistan have been in major conflict with each other over Kashmir for almost 60 years. Wars were fought in 1948 and 1965, and again in 1971 when India supported East Pakistan in the 70s with both diplomatic and military assistance against Pakistan, to help it become Bangladesh. India is still fighting three anti-terrorist wars in Kashmir, the Maoist Naxalites in north east India, and against Pakistan and Bangladesh which support rebel groups in Assam. In November, a large, well organized group of terrorists attacked targets in Mumbai killing many, destroying property, and terrorizing the

population. India is convinced that this attack was sponsored and supported by the Pakistani Inter-Services Intelligence Agency (ISI), and it once again seriously damaged some hopeful peace negotiations at the time and is regarded as a mortal insult that will not soon be forgotten. The great fear for the future seems to be China, and the more the Chinese rattle their sabers, the more hysterical the Indians become. But one of the dominating problems which the Indians are reluctant to discuss is the fact that they have never been able to develop a satisfactory "military/industrial complex" and they are heavily dependent on the Russians, the Americans and others to provide them with modern weapons. In the last analysis, India's strategy seems mostly internal and defensive, and it is hard to see its military as ominous or threatening. India's political and military preoccupation continues to be Pakistan, and this relationship has made little sense for 60 years. All other foreign players – Russia, China, the U. S. and even Japan – are first and foremost measured by their relationship with Pakistan, and then, collaterally, with India itself. It is a game which nobody seems to know how to play, and each has its own set of rules.

India's strategic situation makes it hard to conceive of a major land based conflict with China over the mountain barriers that separate them. First of all, it is hard to conceive why China would ever consider invasion at all. Second, the mountains make such an invasion very difficult, with impossible supply lines, and terrain relatively easy to defend. An option for invasion might be for China to come through Pakistan, but this would be impossible if Pakistan were not an ally. Even if it were, the first point still applies – what could China hope to achieve even with a successful invasion of India? The same realities apply in reverse for India versus China and Pakistan. It is also probably true that the deterioration of Pakistan and its own internal conflicts have substantially reduced the likelihood of any serious offensive against India. In the end, offensives by the land forces of all three countries are marginalized, and their main roles are defensive and internal. In addition, the international community would bring enormous pressure against all three countries if insanity threatened to take over.

1.2. Indian Ministry of Defense

Responsibility for national defense lies with the Cabinet Committee for Political Affairs, chaired by the Prime Minister. India's military command has no joint defense staff or unified command apparatus. The Minister of Defense and the ministry provide management and operational control over the three main services[1]. There are important inter service organizations such as the Services Headquarters, Production Establishments, and R & D organizations—plus a Finance Division. A major study in 2000 resulted in recommendations – being implemented – to establish a Defense Procurement Board, a Defense Intelligence Agency, the National Defense University, a Strategic Forces Command, and an integrated headquarters in the Ministry of Defense. To enhance military planning, the Ministry of Defense (MOD) has created the Defense Coordination and Implementation Committee, and the Defense Planning Staff. All of these steps seem highly desirable, but what one wonders is why they have been so long in coming.

The Union Ministry of Home Affairs controls the nationwide Indian Police Service, most of the paramilitary forces, and the internal intelligence bureaus. It includes the Central Bureau of Investigation (reporting to the Dept. of Personnel), the Central Industrial Security Force, and the Indo-Tibetan Border Police. The separatist insurgencies, drug interdiction problems, and community unrest have led to a stronger role for paramilitary forces under the direction of the Home Ministry. Unfortunately, these paramilitary forces have a bad reputation for civil rights abuses. Each state has its own police force, reporting to a

[1] Wikipedia: Indian Army; Indian Air Force; Indian Navy; Paramilitary Forces of India. See also Global Security, Ministry of Defense.

Director General (Police), and state forces are provided in the districts. The prison system is entirely state operated.

A Department of Defense Production was set up in 1962 after the disastrous war with China to shape up all defense procurement, and it was later merged with the Department of Defense Supplies in 1984. The basic policy is to move almost completely to domestic production of all needs. Presently 39 ordnance factories and 8 Defense Production Service Units (DPSUs) are in operation, but much is purchased from civilian suppliers. The Ordnance Factories (OF) are government owned and run by the Ministry of Defense. They produce ammunition, explosives, weapons, vehicles both regular and armored, and other ordnance equipment and maintenance. The 8 DPSUs are: Hindustan Aeronautics Ltd.; Bharat Electronics; Bharat Earth Movers; Mazagon Dock Ltd.; Garden Reach Shipbuilders and Engineers Ltd.; Boa Shipyard Ltd.; Bharat Dynamics Ltd.; Mishra Dhatu Nigam Ltd.

The government has only recently begun to urge the private sector into the armaments market, presumably to try and split the costs, but so far, the private sector has been permitted only marginal participation through the provision of raw materials, semi-finished parts, components, services and some maintenance, which means that they contribute little to more sophisticated weapons systems R & D. FDI in any defense activity is limited to 26%

The size of the budget is difficult to assess. The official military budget excludes military pensions (15% of actual total outlay), the Coast Guard, the nuclear weapons arsenal, and the huge paramilitary forces. All things considered including PPP calculations, the military budget is about $ 100 billion[2]. The terrorist attacks on Mumbai in 2008, also terrorized the political parties who had been very sluggish about the cost of modernization, and as a result, the military asked for and got a 34% increase in its main operating funds for 2009. India is the second largest weapons importer after the Chinese, which is a reflection not only of the desire to upgrade equipment, but also the inability to produce high technology weaponry domestically. Recent purchases of new items include the Adm. Gorshkov aircraft carrier purchased from the Russians, plus another new carrier now being built by a Russian shipyard. India is also purchasing upgraded versions of Sukoi strike fighters from the Russians, plus Mirage fighters, Hawk trainers, submarines, multiple unit rocket launchers, light helicopters, long range artillery, plane-based radar, and increased funding for R & D. Funds are also included in the budget for the start of deployment of short range – 700 km Agni – I surface-to-surface missiles, and the intermediate range - 2,000 km Agni – II missiles. The Army is also seeking development of a "weapon locating "radar. The military is also seeking new "anti-terrorism" weapons – whatever that means. One of the most significant ways to redirect military expenditures would be to do what the Chinese did: radically cut back on the very large numbers of infantry troops and reinvest the money saved into high technology weaponry. This is especially true because, as a result of a recent Sixth Pay Commission report, major increases in pay, benefits and pensions will add large sums to an already tight budget. India can scarcely afford its very large standing army and paramilitary forces, but it seems extremely hard to reduce units with such grand traditions.

The Iraq war proved to be a great surprise to military planners and procurement officials because of it demonstrated the great superiority of U. S. vs. Russian weapons systems which are heavily relied upon in the Indian armed forces. There is a growing feeling that scarce military funds will be better spent on U. S. and other western country weaponry. This fits in with other tides running in Indian for-

[2] OpenSalon.com. Report of the Indian Defense Budget, Feb. 7, 2010. See also GlobalSecurity "Military Budget". See also Medhani in The Trajectory, "India's Defense Spending: Facts Beyond the Figures", July, 2010.

eign affairs – the decline of the Soviet Union as a potential ally, the surge of concern over the rise of China and its military modernization program, the decline of Pakistan, and the fact that the "on again, off again" relationship with the United States seems again to be "on". This is especially true because the Indian R & D community which was supposed to key the development of Indian domestic weapons development capability seems to have promised much, but delivered little. Soviet weapons systems were often disappointing, lacking promised performance and often proving to be of poor quality and reliability. Many Soviet suppliers have gone out of business and been replaced with post Soviet owners and managers, but some sources of replacement/repair parts have been lost, and it seems hard for Indian enterprises to fill these gaps. But still, the major purchases being made remain heavily oriented toward Russian sources which are still said to supply over 50% of India's military hardware.

1.3. The Indian Army

The Indian Army numbers over 1.4 million troops on active service plus more than two million reserve troops, making it the second largest standing army in the world and it is almost all volunteer and has long been able to maintain a large number of permanent long serving troops as its core (Global Security 2009). But pay is low, morale is often poor, discipline is often weak, and there is a growing pattern of accusations of corruption. It also seems true that fewer young men are enlisting, more are opting out, and even appointments to the Indian Military Academy are less sought. But still, the government is attempting to find ways to modernize Army weaponry. Indian armored units, which have performed well against the Pakistan Army are being beefed up with the purchase of more than 1,600 new T-90 main battle tanks from Russian sources, along with more than 4,000 Milan 2T anti-tank guided missiles. It has been involved in four wars with Pakistan (1947, 1965, 1971, and 1999) of which it can be said it won three. It has fought one war against the Chinese in 1962, which was a military disaster, and led to a new emphasis on military modernization that is still progressing slowly. It usually fields about 36 divisions, 97 armored regiments with more than 3,200 main battle tanks, 3,200 artillery pieces, 1,500 aircraft, and more than 2,000 battle field ballistic missiles. The Chinese realized, in the post Maoist period that its huge army was far larger – and far more expensive – than the country needed or could support, and it has spent 25 years reducing the size of its standing army and re-equipping the remaining forces. It is felt that perhaps India is facing the same problems, and they it may need to decide to trim back its standing forces, so that the money saved could be used to finance modernization. As with the other services, most of the Army's weapons are imported, but there are more small arms and ammunition being produced domestically.

1.4. The Indian Navy

It may well be that the most important service in the Indian military is not the Army, with its huge forces and glorious traditions, but the Navy because it has a series of contemporary missions to perform, and more flexibility in its deployment. It would be the first line of defense if any country attempted either invasion or attack against the homeland. It would be the only feasible weapon of offense against another county if needed. It can and will play a critical role in either blockading or keeping open vital shipping lanes in the whole of Southeast Asia. And it has already established a solid record of offering help to other nations in the area such as its excellent record against Indian Ocean pirates operating out of East Africa.

The Indian Navy currently has about 65,000 personnel on active duty, and that makes it the fifth largest navy in the world in terms of personnel. It has about 150 ships, including one aircraft carrier, 8 destroyers, 15 submarines, 37 frigates and corvettes, and about 250

aircraft of all kinds. It operates mainly out of three naval bases at Goa and Karwar on the west coast about 400 miles south of Mumbai, and at Visakapatnam on the east coast about 400 miles north of Chennai.

The Indian Navy has always had one aircraft carrier in service starting with one purchased from the British in 1963 and running thru three replacements or retrofits. The current INS Vikrant has been in service since 1987, and is due for retirement in 2012 – but may be kept in some adapted role. But in direct response to constant Chinese rumblings about building a carrier, the Indians have done two things:

They purchased the aircraft carrier Adm. Gorshkov from Russia and it is currently being refitted in India for service "soon" (this is a valuable learning process for Indian technicians)

The Indians signed a contract in 2005 for design and construction of an entirely new modern carrier which is being built by the Russians.

When these actions are completed, India will have two and possibly three carriers in operation and they will be the only carriers possessed by any Asian nation. The key to the military balance of power in S. E. Asia will then lie with the ability of the Indian Navy to operate three powerful aircraft carrier groups carrying the best military aircraft in the region, and contracts have been signed for purchase of 16 more MiG 29s, and there are apparently plans for purchase of an additional 29. This is very important; it represents the kind of force projection that the Chinese do not have. The capacity of the Indian Navy to disrupt supply lines and blockade the ports of other countries is very great, and could be devastating. The Navy has 8 destroyers, 13 frigates and 24 corvettes which are capable of independent operations but are critical as the carrier escort vessels in aircraft carrier groups.

The Indian Navy has 16 submarines only one of which is nuclear powered– but at any given time only about 6 are operational. They are diesel powered and obsolete by international standards. Half of these subs are approaching 22-23 years old, with a supposed life cycle of 30 years. General plans seem to be to start to replace these at the rate of 2 per year, and six are already scheduled, but it not certain that this schedule can be maintained. Training, refitting, maintenance and upgrading capabilities all seem very limited and difficult. India keeps saying that it wants to be self sufficient in weapons systems production, but in fact they seem technically to be another generation away, and meanwhile it keeps buying ships from the Russians, with more frigates and submarines to be purchased soon. In fact, one of the Navy's most serious problems is the talent shortage, both in the service and in its supporting military industrial complex. The Navy has been very dependent on military state owned enterprises because of long standing government policy of import substitution, and the domestic private sector has been largely excluded from the more technologically sophisticated systems[3].

This may change. India is trying to build up its skill base, the Russians are increasingly reluctant to supply its top level technology, and the U. S. and other countries such as France, Israel, Japan and Brazil are ready to step into any gap, and appear more willing to share their technology knowledge.

1.5. The Indian Air Force

India's air force is the world's fourth largest with about 170,000 personnel and over 1,300 aircraft, including over 600 combat aircraft and more than 500 transports and helicopters operating out of more than 60 airbases around the country[4]. Its newest plane is the multi-role Sukhoi 30 which are obtained from Russia, and are capable of delivering strategic weapons. It now also operates a large number of MiG 29s and Dassault Mirage 2000 aircraft which have advanced electronics permitting night operation. MiG 27 aircraft are deployed

[3] Wikipedia, "Indian Navy".
[4] Wikipedia, "Indian Air Force".

for ground attack and ground support missions. The air force has many older MIG 21s which it wants to replace with a domestically produced light combat aircraft. Hindustan Aeronautics Ltd. (HAL) is major domestic aircraft manufacturer and it currently produces many of the Russian aircraft in India under license. It also produces several helicopters, and is designing the HAL Tejas domestically as the replacement for the obsolete MiG 21s.

The Indian Air Force is also responsible for the defense of the country against air attack, and it is moving to upgrade its land-based detection electronics and its ground to air missile systems, including the use of mobile missile trailers. It is also deploying three of the Phalcon Airborne Earl Warning radar system obtained from Israel Aerospace Industries considered among the best in the world. The Air Force also operates a large number of transport aircraft which gives it superior airlift capability.

1.6. Paramilitary Forces of India

The military capability of India is supported by an extraordinary complex of police and semi-military organizations grouped under the general heading of the Paramilitary Forces of India (Global Security, 2010). The first and most important level of such forces is the Central Police Organizations which function as a national police force for the State, dealing with a whole range of law enforcement matters ranging from insurrections to parades. These organizations include the State Armed Police, which is highly mobile and well armed force of more than 450,000 troops, and functions independent of the military, reporting to civilian bosses. It is supported and reinforced by the Central Reserve Police Force (CRPF) which is a volunteer force with more than 300,000 active members, plus a Home Guard and Civil Defense forces with almost one million more members. The Central Reserve Police Force also maintains a Rapid Action Force and the Anti-Riot Police to deal with particularly violent threats, and a new 10,000 man Rapid Action Battalion for Resolute Action (COBRA) is being formed under the CRPF specifically to deal with the Naxalite Maoist insurgents in northeast India.

At a next level are the Central Paramilitary Forces which are linked more closely with the Indian Army, and during wartime, would serve directly under the armed forces chain of command. It includes such units as the Coast Guard, the Border Security Force, the Central Industrial Security Force, the Tibetan Border Police, and many other special purpose units. The total population of all of these units exceeds 8.7 million troops. All of these organizations are headed by a senior Indian Police Service Officer apparently to provide some coherent leadership to a very complex array of military and police establishments, which are hugely expensive.

India's military modernization is about a lot more than weapons. The military establishment suffers from weak planning, lack of coherent command and control, obsolete structure both of fighting units and support commands, and a lot of disagreement and uncertainty as to who "the enemy" really is, and what strategic objectives should be followed. There is a genuine but highly dysfunctional difference of philosophy between an assertive military and national leadership that has long believed in a more peaceful and passive national posture. There is a strong movement in the country that sees the military as overly aggressive, unduly expensive, and largely misdirected. Thus, the civilian leadership favors "strategic restraint", a defensive stance and the hope of a nuclear umbrella, with a "no first strike" philosophy, as precluding the possibility of any real war. One role that both can agree on is the growing importance of the need for counter insurgency. But this has been largely the responsibility of the police, and only recently has the army stepped in, but with unsavory accusations of excessive brutality.

2. The Chinese Military

2.1. Introduction

The People's Liberation Army (PLA) holds a special place of honor in China as its liberator, its protector, the stalwart defender of the Chinese Communist Party (CCP) and the guardian of the Revolution. Despite this honored position, the PLA has suffered from a strangely rocky history of alternating support and neglect, and has spent the last 20 years attempting to recoup its position from the mistakes of it's past. It was both neglected and ill-used for 20 years by the Maoist regime. It's strategies were muddled, its equipment obsolete, its funding has been uncertain, its officer corps is underpaid and under trained, and its troops are a non-professional transient population. In the 80s it was authorized to create or acquire state owned enterprises (SOEs) and other businesses in the hope that it could largely finance itself and save the political leadership from the necessity of raising more taxes. This policy was a disaster for both the PLA and the Chinese economy from which both are still laboriously recovering.

Military affairs are naturally highly political, and they are under the direction of the Central Military Commission (CMC), an extraordinarily powerful body that is chaired by the CCP General Secretary, who is also the head of the CCP and formal leader of the government and the country. The CMC has three vice chairmen, one of whom is the prime minister, plus seven other members who are the most senior military officers. It has four general departments: General Staff, Logistics, Armaments, and Political Affairs. The country is divided into 7 Regional Military Districts, and the PLA itself has five field Commands: Army (PLA), Navy (PLAN), Air Force (PLAAF), the Second Artillery (which is the nuclear missile command), and the Peoples Armed Police (PAP), which is officially under the dual command of the State Council and the CMC, but is generally considered to be an integral part of the military establishment.

The strategic thinking of the CMC and the PLA has been almost entirely defensive except for Taiwan. Its major stated policies are first and foremost to defend the CCP, then to defend industrial centers, defend the capitol of Beijing, guard the borders and potential avenues of attack, protect key elements such as transport routes, lines of communication, harbors, and power sources; and to secure key locations providing internal security. None of these policies specifically emphasize the defense of the Chinese people.

But the new leadership of China has now fully committed itself to genuine and comprehensive modernization and expansion of its military capability. The authority of the PLA is wide open and its role is defined at any given time by the views of the political leadership. It is pursuing several major modernization programs: reduction in troop numbers, creation of medium and long range missile capability, an expanded and updated Air Force and Navy, creation of "multi-role" military units with rapid deployment capability, an upgraded command/field communications network, and an air defense system, and a coastal defense capability with naval and shore forces. But troop concentrations seem not to have changed much in 20 years and they are still deployed opposite Taiwan, along the Russian border, and in Tibet and Xinjiang.

As with so much else in the modern history of the Chinese, the death of Mao in 1976 broke the pattern of neglect and stagnation and permitted the CCP leadership to initiate a long, complex and multi-faceted reform of the PLA which, 30 years later, is still under way.

Essentially three major arenas of reform were therefore considered vital:

First, the whole military establishment had to be "downsized" on a grand scale in terms of personnel, and its organizational structure had to be simplified and made more efficient and productive. It had to get rid of old obsolete types of forces, mainly massive ground units, so that it could afford new units more relevant to the nature of modern warfare.

Second, every aspect of PLA operations had to be modernized from new field communications, to weapons systems design and acquisition, to logistics, supply and transport and even to financial responsibility and control. An important policy was enunciated by Deng Xiaoping in 1985: the military should concentrate on modernization through R & D; but it was not necessary to then manufacture new weapons unless the actual military situation requires them. This is the same pattern that makes sense in the U. S. since R & D is relatively cheap, and manufacture is very expensive, especially with technologies that tend to become obsolete quickly. The difference for China is that, in many disciplines, Chinese education and technological development had never really developed, and this limits the skills available for military upgrades.

Third, the government made a decision about 1985 that probably seemed smart at the time, but which ultimately proved to be a disaster. The PLA was authorized to enter into business in a big way to create or acquire state owned enterprises (SOE) and other businesses. The political reasoning at the time was that the central government budget could not afford both the PLA and funds for economic development, so the PLA was largely cut loose to finance itself. The basic intent of authorizing PLA business activities was very quickly perverted. At its peak, the PLA controlled 30,000 SOEs employing 3 million workers. There was almost no accounting for either income or expenditure, and these commercial operations were a serious cause of corruption, including the diversion of military assets (such as trucks, fuel, food and labor) to its businesses. In many cases such as electronics or certain minerals, the PLA enterprises dominated whole sectors of the economy. The whole complex structure continues to suffer from the usual sins of corruption, patronage and incompetence, and it is likely that any development of major weapons systems, will take 12-15 years to complete, even if it is pursued steadily and not interrupted with funding shortages or political changes of mind. Only in the 90's did the Chinese appear to discover systems management and competitive bidding, and it is not clear how far they have advanced.

Despite years of hand wringing, it was not until 1999 that the political leadership finally got serious about this elaborate mess. The point had been reached where both the military and the political leadership realized that this PLA commercial activity was a failure. The essence of the agreement that emerged was that the government promised to substitute regular appropriated funds for the loss of SOE revenues, and the newly acquired wealth from the market economy made it feasible to promise the PLA adequate funding for the future. The PLA leadership recognized this was a good face saver, since most of its SOEs were operating at a loss, despite their subsidies. Therefore they could dump the failed commercial enterprises, return their officers to military roles, clean up much of the corruption, and assure a reasonable flow of funds for modernization. So the deal was struck.

But it is clear from subsequent events that the PLA and the rest of the government never really got out of the enterprise game. At present, it appears that there are still about 10,000 enterprises employing 700,000 workers under PLA control. There are about 2000 SOE's that are genuinely defense related, but there remain many others that are for mixed military/civilian production. For example, the Aviation Industries of China, which produces both civilian and military aircraft is in fact a large holding company that includes more than 200 enterprises and trading companies and employs more than 500,000 people, of whom 200,000 are engineers and technicians (Shambaugh, 2004).

The other big source of PLA revenue is weapons sales. The PLA is reported to still own or control dozens of major SOEs that produce weapons for export (Shambaugh 2004)5.

[5] See also Frankenstein, John, and Bates, Gill, "Current and Future Challenges Facing Chinese Defense Industries", in Shambaugh, David, and

Most of the weapons sales have been to international "bad guys" in the eyes of Western nations: Iran, Iraq, Syria, Libya, Nigeria, Cuba, Sudan, Pakistan and of course N. Korea. But predictions that Chinese aid would allow Iran to have nuclear weapons by 2000 were obviously exaggerated. In fact, the Chinese seemed to have been aiding Iran for 25 years to little effect.

In the fall of 2002, the State Council and the Central Military Commission directed local governments at all levels to include provision of "rear services" costs for the military establishment which allowed the PLA to reduce its own budgets. In addition, local governments bear some/all of the cost of military reserve units.

Adequate accounting procedures were not available until well into the 90s when the Ministry of Finance (MOF) developed standards which the PLA is required to use. Also, the MOF began serious budget reviews with a Zero Based Budgeting approach requiring more line item information and more account auditing. Thousands of PLA accounts were off budget, and much of the PLA budget was (and still is) concealed in other types of accounts. Huge debt levels were revealed – so substantial that they endangered the banks and local governments that had been coerced into backing the loans. Thus, it was clear in retrospect that the PLA had access to huge amounts of money, and it is a puzzle why they got so little real military capability out of these funds for more than 40 years.

2.2. Military Reforms

When all is said and done, the PLA seriously wants to be a lot smaller but a lot more sophisticated, versatile and more technically advanced. Therefore, one major reform has been to shift the mix of units away from large ground units to more compact and multi-mission units. The number of divisions has been reduced in favor of more brigade (1,000-2,500 troops) units to add flexibility. There are 13 infantry, 20 artillery, and 20 tank brigades. 59 divisions including 44 infantry, 10 tank and 5 artillery are still active. Efforts have been made to create at least one Rapid Reaction Unit (RRU) for each of the seven military regions, but airlift is scarce, and there are only about 130 transport helicopters in the whole PLA. Thus, most rapid deployments would still be by rail or truck. There are an estimated three RRUs actively deployed. Artillery is a big strength, with 30-35,000 pieces of ordnance of many types, including 14,000 self propelled howitzers of 120 to 203 mm caliber. There are more than 6,000 tanks of varying age with 85-125 mm guns (Karmel, 2000, pp. 123-154).

The PLA has about 8,300 main battle tanks of different ages, but all of them, even the new T-90s under development, are obsolete by international standards, and those sold to Iraq were no match for the U. S. tanks. The history of tank design and production is a good illustration of how weak the Chinese military/industrial complex really is. A tank designated the T-69 was the first tank domestically produced. It was designed about 1970, but took another 10 years to reach production, and was not deployed in any numbers until the mid 80s by which time it was obsolete. The main battle tank is now considered to be the T-85, introduced in 1989, but it did not enter production until 1995, and not many have yet actually been deployed to the troops (Karmel, 2000, pp 252-255).

The PLA has two very capable artillery pieces: the 155 mm and 203 mm mobile howitzers. The 203 mm howitzer has, at 50 km, the longest range of any weapon in the world but again, neither has really been built in any numbers.

Even before these reformed unit alignments, there was a serious reduction in troop numbers, over a 20 year period. Reductions have so far totaled 1.8 million from its peak of 4.5 million as recently as 1985 (5.5 million in 1950), and the active Army ground troops now number about 1.6 million. But in fact, many of

Yang, Richard H., Editors, Oxford University Press, 1997.

the people "reduced" have been simply redeployed. A Reserve component has been created, largely for Army forces, and some active duty personnel have been transferred to the Reserves which now number about 800,000. Some have been moved into civilian jobs in the PLA and others have even been assigned to other government ministries. There are about 4 million military dependents and "several million" civilian employees of the PLA.

Taiwan has been the keystone to military policy. The conflict with Taiwan is the only external situation that can be used to justify the high cost of the PLA. There is no credible land threat, now or in the foreseeable future. The major strategic posture is one of coastal defense. The military has virtually no force projection capability, beyond Taiwan. China wants to become the dominant regional power, and it is acting to enhance its force projection capability. About 82% of the PLA total forces have been 3 year conscripts. The goals are to cut the conscript period to two years, but to reduce the percentage of conscripts to less than 65%.

Many personnel have been transferred to the People's Armed Police (PAP), created in 1983, including 14 PLA divisions more or less intact. This reflects a significant change in policy following Tiananmen Square; the leadership wants a far larger and more heavily armed internal security force to deal with potential civil insurrections but wants to avoid the visibility of using the army. The PAP force which was about 400,000 in 1982 and around 900,000 in the late 90's has climbed to what is estimated to be about and 1.5 million today (the official number is just 660,000). Its major roles are border control, internal security, civil unrest, customs and anti-smuggling and facilities protection. But it is still not clear who really controls the PAP. The CCP wants it both ways; they appear to want it linked to the military establishment, but want it to appear to be run as a civilian function.

Major modernization of forces has occurred in all of the services. Recently, most modernization funding is going to the PLA Air Force (PLAAF) and the PLA Navy (PLAN). While ground forces are being upgraded, only a limited number of units will be improved; the rest of the Army units will be low quality. There is an annual conscription program which is dysfunctional. 25% of all forces are one year people, and many of the rest have three year terms of service in a profession that is poorly paid and not very promising. All services suffer from a lack of capable NCOs. The Navy has no aircraft carriers, no heavy capital ships, only about 25 capable subs (only one nuclear powered nuclear missile capable sub and that is in its development/testing cycle. All 6 of the nuclear powered subs are obsolete)[6].

The Air Force has about 420,000 personnel and a growing number of planes, but most are based on 20 year old technology. It has about 150 first line planes including two fighter types bought from Russia, and one domestic plane based on good but 20 year old Israeli designs, but it has languished because of major technical problems with design, metallurgy, avionics, engine technology, and generally low manufacturing skills and quality control. The engines for the new J-18 fighter are actually being supplied by Sugat – a Russian company. More than 3,000 older aircraft (built in 1979 or earlier) of all types are so obsolete that they are being decommissioned. The Russian SU-27 is a good but old trainer that has been upgraded. The SU-30 is a good modern multitask fighter-bomber with a range of 1600 nautical miles. There are about 120 old but good Russian "Badger" heavy bombers with a range of about 5,900 KM, and nuclear capability. None of these aircraft compare well against American and other country aircraft. The past

[6] The Chinese Navy has fewer than 10 nuclear submarines, only one of which is armed with strategic ballistic missiles, and it is not operational. It now has one aircraft carrier, built as an upgrade of its original '80s capability. Although the PLAN keeps announcing plans for the new ships, even if true, the actual development cycle for such systems to reach production continues to be more than 12-15 years.

reliance on Russian sources is now in question. Increasingly, the Russians are reluctant to part with new designs or production technology, fearing China not necessarily as an enemy but rather as a competitor as well as a customer, and they are now insisting on cash rather than bartered goods (Karmel, 200, pp. 158-161). The PLAAF also operates a formidable Air Defense System with 220,000 air defense personnel in 100 sites, with surface to air missiles and about 16,000 anti aircraft guns. There is a large early warning radar network with ranges up to 100 km.

Missile forces are perhaps the strongest arm of the PLA, but they are still almost entirely ballistic. Seven ICBM missile systems entered development, but four have been cancelled and one is an old liquid fuel system. There are two modern systems: the DF-31 with a range of about 7,200 km; and the DF-31A with a range of 11,200 km, but the inventory for each is very small – less than 10. There are about 1000 air-to-air missiles, and another 1000 land based cruise type missiles, but the maximum range for any of them is about 85 NM. These are Russian designs that are being upgraded and switched to domestic production. The Chinese produce several short range attack missiles, has sold a lot to Iran, and wants to sell more to developing countries. There is a consolidated missile force with longer range missiles named "The Second Artillery". Long range missiles are really upgraded middle range missiles shifted from liquid to solid propellants. There are at least ten theater missiles with ranges from 180 to 4,700 km. Most remain ballistic; and some are now equipped with upgraded guidance systems, but they remain scarce. China has 8-900 nuclear weapons, the third largest inventory in the world.

The People's Liberation Army Navy (PLAN) has a total of about 250,000 personnel. It has been trying hard to upgrade its submarine fleet as an attack force. It initiated five types of subs, of which two – the Type 92 Xia and the Type 94 Jin are nuclear capable, but neither is fully operational, and only 9-10 have so far been identified. Submarine missiles are old and limited in numbers. The JL-2 has a range of 7,200 km, but apparently has yet to be deployed for fleet operations. It has only one full range nuclear powered ballistic missile sub, plus 5 "attack" boats with ballistic missile capability. China has a very large merchant marine, but many of the vessels are coast or river based. It has two guided missile destroyers based on a 1990 Soviet design, and carrying 8 anti-ship cruise type missiles. It also has 2 smaller guided missile destroyers and 8 smaller frigates. All other ships in the Chinese navy are from the 1950's and are obsolete (Shambaugh, 2006).

The current budget is estimated at about $36 billion, but much of the funding for the military establishment remains concealed. Almost all R & D is carried in a separate national R & D budget category. The costs of some arms imports are budgeted separately and mostly off budget. The PAP is largely funded out of civilian accounts. The Reserve is funded from provincial budgets. A lot of the cost of military SOEs including deficits are covered by government subsidies and forced "loans" and the PLA has always had huge bank debts, much of which is not realistically expected to be repaid. Many of the prices of military goods are deliberately understated. There is a serious and deliberate lack of reliable data, and most of the statistical comparisons with world prices lack a Purchasing Power Parity (PPP) assessment. In fact, there is serious doubt that the Chinese themselves know how much they spend on their military establishment. The budget in 2000 was double that of 1978, but it has had persistent ups and downs – up for Korea and then down; up for the Vietnam War and then down. In effect, financing for the military establishment as a percent of the national budget is not much better than in 1978. A substantial part of the recent increase is to bring pay for both officers and men up to some reasonable standard after decades of underpayment. The quality of personnel has, for 30 years or more been poor since the mili-

tary is not an attractive career. In addition, there is a track record of bad maintenance, a shortage of spare parts, and low performance reliability.

"China's reported 17.5% increase in its defense budget still leaves it a fraction of what the US spends each year on its armed forces. President Bush's last budget requested $515 billion for FY 2009 – a 7.5% increase – plus $70 billion for the wars in Iraq and Afghanistan." The Obama Administration DOD budget for 2014 is $526 billion, down slightly from its peak of $530 billion in 2012.

A spokesman for the Chinese National People's Congress said that defense spending has increased at an annual average of 15.8% in the last 5 years, and while this seems ominous to some observers, it is actually less than the increase in general government revenues which have increased an average of 22.1%. He noted that the defense budget is equivalent of 1.4% of GDP, while the US spends at 4.6% and Britain spends 3%. He also stated that much of the increase was for higher military salaries, more training and rising oil costs rather than new weapons. However the Pentagon still manages to brood about nuclear force modernization and new high tech missiles.

Here again, as with India, the Chinese government is utterly preoccupied with preparations for a war that will never happen, against an enemy that does not exist. None of the conflicts that seem to drive military policy – against the U.

S.; against Japan; against Pakistan; against Russia; seem even remotely probable. Military leaders in both countries ominously overstate the risks because such overstatements are hypocritically accepted by the political leadership as justification for authorizing more resources for their military establishments.

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