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Emerging Trends in the PLA Army

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The last few years have been one of tremendous change for the Chinese People's Liberation Army (PLA). On nearly every front, the Chinese army has engaged in a spectrum of reforms aimed at making it a more professional force in a corporate and institutional sense, as well as a more operationally capable force. China perceives its security concerns in the context of her overall aim of becoming the dominant power in Asia, but the main threats to the PRC's security have been led by a combination of traditional and non-traditional elements. This has resulted in the Chinese Army undertaking a massive overhaul of the entire force structure, also bringing about personnel reform, reinvigorating doctrinal thought, and yet another revitalization program for the defense research and development establishment.

Introduction

The modernisation of People's Liberation Army (PLA) Armed Forces is being driven by a growing Chinese strategic ambition of becoming the dominant power in Asia and major power centre in the emerging world order. The trends of Chinese military modernisation allude to a ''transformational model'' with typical ''Chinese

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characteristics'' rather than mere ''force modernisation'' as it is commonly understood around the world. This is happening in what is seen to be the most prosperous and benign period in Chinese history, in terms of external threats and challenges. The prevailing strategic environment is in China's favour – given the fact that the American and European power is beset with economic woes and strategic overstretch, following ill-conceived ventures in Iraq and Afghanistan.

The People's Republic of China's (PRC) grand design of enhancing its defence capabilities is based on what can be termed as a ''capability'' rather than a transformational model. The Chinese rarely use the ''end-ways means'' construct to discuss strategy. Instead, they address strategic issues from two central conceptual perspectives, i.e. CNP (Comprehensive National Power) and strategic configuration of power ''*Shi*'' (roughly translated – an alignment of forces). These concepts provide an insight into the Chinese perception of the prevailing geopolitical trends and security environment.

In terms of strategic perspective, China looks upon itself as a pre-eminent power in Asia and pretends its rise should not be a matter of concern. The Chinese argue that their rise necessarily does not constitute a challenge. They emphasise four arguments: first, China's status as a big power in international system is nothing new. China was a major power until the beginning of nineteenth century and the current rise is mere ''revitalisation,'' and completion of the historical circle. It, however, accepts that from ''revitalising'' to ''rising'' it faces many hurdles. Second, Chinese economic development is touted as advantageous for the region; it is argued that China's strong economic and manufacturing base will help neighbours along its periphery. Third, a strong and prosperous China is seen as providing political opportunity for peace and stability. Lastly, military modernisation is contextualised as an inevitable imperative for self-defence during the prevailing period of political flux and strategic uncertainty even in an otherwise benign environment.

China looks upon itself as a ''Geo-Gravitational Power Centre of Asia''. Geo-gravitational state is a big power, located in relatively geo-strategic centre of a region, and exercises strong gravitation pull in terms of political stability, economic growth and regional security. Owing to its relatively advantageous comprehensive national power, it gradually becomes a key venue for regional ''political and diplomatic'' activities and security initiatives. Economically it acts as the engine of regional economic growth on which peripheral states become increasingly dependent.

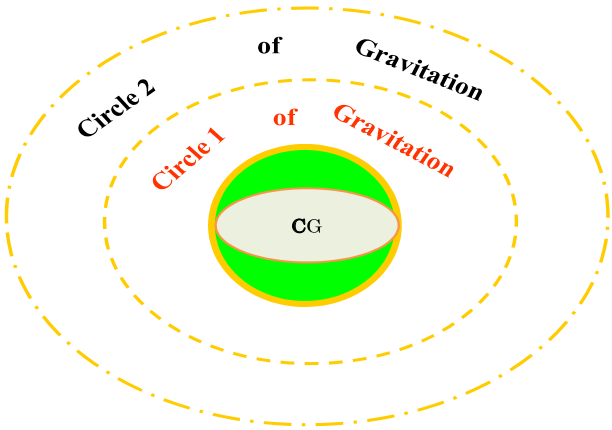

Fig 1. Concentric circle of geo-gravitational force.

Culturally, it plays a leading role in determining the people's way of life in their region and is the primary driver towards regional integration and determinant of regional stability and prosperity.

The state's gravitational power over its area of influence is depicted in Figure 1, with the state machinery being the centre of gravity and its influence pervading in concentric circles. In China's case the first circle connotes the immediate periphery of the 14 countries that border China, this is what can be termed as the continental construct. The outer circle is the Asian Rimland, overlooking the all important sea lines of communication, an arena yet not fully in the Chinese zone of influence but which is strategically important to maintain presence and develop and influence.

Strategic Perspective

The Chinese leadership appears to believe that global geostrategic conditions are likely to remain essentially benign and favourable for China in the first two decades of the twenty-first century; this, despite daunting challenges and strategic flux in the broader Asia-Pacific region. It therefore looks upon this period as one of "strategic opportunity." It is in this context China seeks to consolidate its CNP (*zonghe guoli*), aimed at maximising its strategic options which include aggressively leveraging its growing power and influence.

The above perspective has resulted in Chinese assertive behaviour marked by deterioration in relations with its neighbours – Japan, Korea, India, the Mekong

countries or allies like Kazakhstan, despite strong economic linkages. Even with United States there is a growing belief that if China is to maintain its status as the 'number two power' in the world, there is an inevitability of conflict with US. This perspective appears to be is driving the modernization of the armed forces as reflected in the latest Chinese Defence White Paper – 2010.

The Chinese believe that given the prevailing world situation, a full-scale war is unlikely, but the possibility of local conflicts and, unexpected events occurring that can lead to military friction cannot be ruled out. Affirmation of power and propensity of its use appear explicit in Chinese strategic calculus.

- Technological innovation and leapfrogging: key areas identified include space, electromagnetic and cyber space, apart from missile, naval and airpower.
- Strategic resources; safeguard security: international cooperation and building soft power seen as the best way to obtain a supply of stable strategic resources – never give up option of using abnormal means.
- Chinese expanding maritime interests: ''Near seas'' area of ''core interest'' – backed by two ocean strategy; propagating the need for a national maritime strategy including building military facilities.
- Power projection: the Libyan evacuation, escort operations provided confidence to project power in support of its interests globally.
- Mobilisation and infrastructural development: ''large periphery'' for quick response development of railway technology and infrastructure to optimise response time.

The PLA aspires to become a fourth generation technology-intensive force premised on increased ''informationisation'', the Chinese version of the RMA, to deal with the strategic realities of the twenty-first century. It is anxious to optimise on the advantages offered by advanced C4ISR (command, control, communication, computers, intelligence, surveillance and reconnaissance) systems to become the pre-eminent power in the region, one that could even challenge the United States, through strategies such as access or area denial.

In so far as the ground forces are concerned, given the analysis of recent major exercises carried out by the PLA, it is apparent that they are being geared towards

"trans-regional mobility", air ground integrated operations, long distance manoeuvers, rapid assaults and special operations. The PLA Navy (PLAN) is being prepared for both green and blue navy roles, i.e. gradual extension of strategic depth for off-shore defensive roles, through integrated maritime operations, duly complemented by nuclear capability and long range power projection. The PLA Air Force (PLAAF) is being equipped and modernised to undertake a transition from territorial air defence to both offensive and defensive operations, to include air and missile defence, reconnaissance and strategic force projection. The Second Artillery's emphasis is on enhanced capabilities to ensure credible strategic deterrence and conventional strike, premised on Chinese nuclear doctrine, i.e. "a self-defensive nuclear strategy and counter-attack in self-defence." Overall, Chinese strategists envision a force capable of prosecuting a range of military operations, both in the periphery and even beyond.

China's Security Concerns: An Overview

China perceives its security concerns in the context of her overall aim of achieving a status of medium developed power, sometime towards middle of this century. Therefore, the main threats to the PRC's security are a combination of traditional and non-traditional elements. The former emanate from across the frontiers and as a result of balance of power manifestations that tend to challenge Chinese predominance in Asia. The latter are more "domestic" in complexion.

The issues that seriously impact China's security are those which are capable of turning external worries into internal troubles. As the process of the PRC's globalisation continues, its internal problems assume increasing international significance, thus leading to "internationalisation of China's domestic security" and "domestication of its international security" facets.[1] Therefore, the intertwining of traditional threats poses serious challenges, deeply impacting the nuances of the PLA's modernisation.

In the context of traditional threats, China perceives the United States' global strategy as hegemonic and will not easily tolerate any challenge to its supremacy. It is the threat of an ideological clash with the United States which China is most concerned about as it can affect its ongoing economic prosperity and development. The warming of US–India ties is seen as an attempt to contain China. With Japan,

China maintains ''economic warmth'' and ''political chill.'' US–Japan alliance and security concerns in the Taiwan Straits are perceived as ''common strategic objectives'' and points of conflict. China's non-traditional threats are primarily due to its domestic and social considerations. China remains plagued by imbalances in development, particularly between urban and rural areas, between regions, and between different population groups. The manifestation of disparities is evident from the periodic mass disturbances, which have been on the rise. Environment protection and energy security are also of prime concern today for the Chinese leadership. Maintaining internal peace and containing dissidence is fast emerging as one of the important roles of the PLA.

Salient Aspects of Chinese Doctrinal Thinking

Sovereignty, stability and modernity are at the core of its national security grand strategy, which is manifested in the augmentation of its CNP that is seen as an imperative in achieving its desired global status. Since the initiation of defence modernisation programme in 1978, the PLA during past three decades has continuously evolved to review and upgrade its doctrinal thinking in tune with its overall threat assessment drawing upon its past strategic thinking and current realities. Major factors that have influenced revised doctrinal thinking from ''people oriented war'', essentially based on defence of homeland, to local war under high tech conditions and now graduating to wars under ''informationalised'' conditions are a result of close study of campaigns in Iraq and Afghanistan, advancements in military technology and indigenous defence industrial base.

In the 1990s the PLA took major steps towards doctrinal reforms. Numerous directives providing new authoritative operational guidance at the campaign (*zhanyi*) and tactical (*zhanshu*) levels were issued by the Central Military Commission (CMC). In 1995 the CMC issued ''First Generation Operations Regulations'' for the modernisation and build-up of the Army, to build requisite capability to fight future wars. As per these directives, defence modernisation ''transformation'' was to drive all facets of the PLA reforms. This was followed by a series of six manuals, laying down the essentials of joint campaigns and each service specific campaign, including logistics, in the form of ''compendiums'' or doctrines. The primary reason for proposing a new doctrine was based on the radical and pragmatic reassessment of the international situation by the PRC leadership, which felt that a full scale external

aggression of continental China was unlikely in the near term. They envisaged that in most future contingencies the PLA was likely to face a far technologically superior adversary, since the PLA would be incapable of matching such an adversary, it had no option but to overcome its technological disadvantage. The ''two transformations'' it initiated first sought to make the PLA transform from an army preparing to fight local wars under ordinary conditions to an army preparing to fight and win ''local wars under modern high-tech conditions'', and second, to transform the armed forces from those ''based on quantity to one based on quality.''[2]

While proposing changes at the strategic and tactical levels, the PLA has continued to hold the fundamental principle that ''people are the decisive factor in war'' and weapons are but the manifestation of human knowledge. The PLA also seeks to adhere to the Confucian ideal of ensuring victory in a war, without actually getting into it, which essentially means coercion and psychological warfare. The PLA' operational doctrines are often described as 'operational principles'' (*zhuozhan tiaoli*), i.e. campaign theory are more specific than basic doctrines. ''Active defence'' (*jiji fangyu*) has long been a core feature of the PLA's operational doctrinal thinking. Chinese military doctrine is based on ''Joint operations and integrated logistics,'' with ability for long range mobilisation. This issue is not given the due understanding that is required. It is important to note that the PLA would need a major build up period for its forces, including rapid reaction forces of any reasonable size. This in effect remains a major Chinese vulnerability in any force application model that may be employed, particularly against India. The PLA aims to develop a force to fight and win ''local wars under informationised conditions,'' PLA analysts have called the ongoing RMA (Revolution in Military Affairs) an ''informationisation military revolution'' (with Chinese characteristics). This alludes to creating an integrated C4ISR system that aims to link space, airborne and electronic intelligence (ELINT) sensors to missile, air, naval and ground-based ''shooters'' to enhance its precision-strike capability in an NCW (Network Centric Warfare) environment.

The military doctrine is fundamental to all facets of China's military transformation and is the principle driver for operational strategy, force structure, personnel recruitment military education, training regimens, hardware requirements, procurements and research-cum-development. The PLA defines campaigns as series of battles fought under an ''integrated unified command,'' through an integrated structure called the ''War Zone.'' In the War Zone Campaign (WZC), operations are

carried out through the synergy of combined arms, under unified joint command and control. This essentially entails a campaign conducted by combined arms Group Armies (equivalent to our corps), with an army dominated command structure particularly to deal with continental threats.

The WZC operates under the overall direction of the CMC and exercises operational control over a full complement of all four services, i.e. army, navy, air and strategic missile force. Although WZCs have a singular strategic direction, it has in terms of organisation adequate flexibility to orchestrate several campaigns in multi-dimensional space, i.e. conventional, air, EW (Electronic Warfare) and strategic missile operations. This replicates a Theatre Command structure, of course with Chinese characteristics.

Defence Modernisation – Key Thrust Areas

The decade of 1999–2009 witnessed an accelerated pace of PLA modernisation. This became feasible to a large extent due to the convergence of a clearly defined mission (evident from the publications such as the ''Science of Military Strategy'' produced by Academy of Military Science published in 2001) and the availability of increased resources (owing to 20 years of past effort, which laid down the ground work). The major areas of modernisation in consonance with the revised doctrine were:-

- reduction in the force size and changes in the organisational structures;
- reforms in the mission and organisation of the reserves and militia;
- improvements in the training methods, with an emphasis on joint operations;
- transformation of logistics system with emphasis on ''joint logistics'';
- modification of the professional military education system;
- review of personal system and enhancement in soldiers' standards of living; and
- influx of new equipment.

China's military modernisation strategy is based on the PLA's simultaneous transformation, through both mechanisation and informationisation. While mechanisation is providing the foundation, informationisation acts as a driving force, thus providing for composite development of overall capability. In 2003, then President

Jiang Zemin, as the Chairman of CMC, while introducing the historic reforms of China's military forces stated: ''High-quality military staff armed with latest military technologies was of great importance to the modernisation of the Army and National defence.''[3] The PLA top brass is well aware that the bulk of its rank and file is still at the pre-mechanised stage with only islands of modernisation and that it needs to rapidly transform itself. In the view of Chinese leadership the Chinese Army remains a massive institution with all the associated inertia. To make the PLA a lean and mean organisation, it adopted the process of downsizing and by 2005 it strength stood at around 2.3 million, with a ground forces component of 1.6 million. In addition it undertook major reforms leading to the downsizing of organs at and above army corps level and the subordinated units, reducing the command levels and improving the command systems.

The general headquarters/departments of the PLA have been improved through adjusting the functions of relevant departments and also those of the joint operations command. Another aspect has been to improve the proportion of officers and men. The number of posts occupied by officers was reduced and the posts originally occupied by officers were replaced by non-commissioned officers (NCO) or employed civilian personnel. Consequently, the number of military officers has been reduced remarkably. When downsizing 200,000 servicemen in 2003, 170,000 of them were officers. According to Chen Zhou, researcher with the War Theory and Strategy Research Department of the Academy of Military Sciences: ''on the basis of this effective streamlining, the PLA is getting more powerful in its battle effectiveness even as its size is becoming smaller.''[4] Chen Zhou holds that the battle effectiveness of the PLA is reflected in the following 5 aspects:

(i) The first aspect is the modernisation of weapons and equipment. According to the demand of the national security and the military strategic guideline, it is imperative to formulate a scientific and complete long-term development plan for weapons and equipment, so as to initially form a highly-efficient and generally-optimised weapons and equipment system with an appropriate size and a reasonable structure.
(ii) The second aspect is the modernisation of the organisational structure of the military. It is necessary to focus on straightening out the leading and command

system, support system and various ratios such as the ratio between officers and men, the ratio between leading bodies and military academies and troop units and the ratio between services and arms.

(iii) The third aspect is the modernisation of military personnel. It is imperative to cultivate talents capable of winning information-based war and carrying out information-based construction. To achieve the above the PLA has signed agreements with more than 100 civil higher learning institutions in the country to cultivate national defence students.

(iv) The fourth aspect is to raise the core capability of winning an information-based war. The core capability refers to the capability of safeguarding the unity of the motherland and opposing separation.

(v) The fifth aspect is to raise the capability of implementing military operations other than war (MOOTW). The PLA has shown capability in such actions as escorting merchant ships in the Gulf of Aden and the waters off the Somali coast, UN peacekeeping, joint military exercises, fighting against natural disasters like flood control and earthquake rescue.

Trends in Ground Forces Restructuring: Role and Organisation

The Army as a component of the PLA is primarily responsible for conducting land operations. The ultimate command authority for the PLA is the CMC, with control being exercised by the five General Headquarters Departments in Beijing. The flat structure of CMC, which is headed by the president with the defence minister and all the service heads as members, facilitates speedy decision-making at the macro level. Land forces are deployed in seven military regions (MRs) throughout the country. The MRs, in turn, exercise operational control over the army units on their Orbat (Order of Battle). The organisational order of these units is Group Armies (in our parlance combined corps), division, brigade (or regiment), battalion, company, platoon and a squad. Directly under a military area command, a combined corps consists of divisions or brigades and acts as a basic formation at the operational level. The Army units include mobile operational, garrison, border and coastal defence. Currently, Army mobile operational units include 18 combined corps and some independent combined operational divisions (brigades).

Restructuring

The major focus of the Army's reforms is the modernisation of infantry units called "light infantry" (LI) by making them light and manoeuvrable, with the ability to perform multiple tasks. For high altitude operations, the PLA has adopted more manoeuvrable "rapid reaction based combat operations," in an integrated real-time battle field environment. The LI units' role encompasses tasks such as infiltration and traditional operational roles in jungle/high altitude terrain. They are also equipped and trained for performing roles as air mobile units. With appropriate logistic support they are capable of operating independently over prolonged periods, in terms of the strategic requirements of mobile operations and tri-dimensional warfare.

- PLA graduating from regional defence to trans-regional mobile force. This essentially means that for launching quick and decisive operations it is imperative to ensure speedy trans-regional mobilisation.
- Focus of organisational restructuring is on smaller, modular and multi-functional units through downsizing and reforms.

The resurgence of the PLA Light Infantry is one of the hallmarks of land forces' modernisation. The LI units are compatible with the PLA's doctrinal emphasis of manpower, machinery and manoeuvrability. For high-altitude operations, the PLA has gone in for the Russian concept of "reconnaissance combat operations." This entails extensive employment of helicopters and reconnaissance teams to provide intelligence for LI, besides the use of signals intelligence. The LI role encompasses tasks such as blocking force for the retreating enemy and also to coordinate fire for the long range artillery and air support. Besides, these units are well trained and equipped to operate in their traditional role of screening and flank protection, with proficiency in undertaking operations in jungle/high altitude terrain and able to cover larger areas than before. Elite units ideally lend themselves for conversion into air mobile units. With advanced logistics support, the land forces are able to conduct operations over a prolonged period. In line with the strategic requirements of mobile operations and tri-dimensional warfare, the PLA is graduating from regional defence to trans-regional mobility.

This is being achieved through systematic reorganisation to make units smaller, modular and multi-functional by appropriate downsizing and structural

reorganisation. There is fast track development of aviation, light mechanised, and information counter-measure forces. Priority is being accorded to enhance the capability of special operations forces which will contribute to synergised integrated operations with longer tactical reach and speedy manoeuvres. Major steps have been undertaken to induct new generations of arms and equipment. With regards to the mechanised operations, utmost priority has been accorded to enhance the integration of information systems with weapon platforms, deploy new ''main battle tanks'' and develop heavy amphibious and light mechanised forces. The proportion of armoured mechanised divisions and brigades has also been further increased.

The PLA's new mechanised infantry division has been described as being two generations ahead of the other armies. Organised to fight as independent battle groups, specifically in both mountainous and urban terrain, their equipment is lighter and thus reduces the logistical footprint. In the field of artillery, the process is to develop three level operational command systems and deploy a series of advanced weapons and equipment. This also includes larger calibre self-propelled gun-howitzers, new types of ammunition and tactical missiles. The air defence component has been working to deploy a series of advanced field surface to air missiles, new types of radar and intelligence command system. Alongside, efforts are underway to improve air defence operation system by synergising reconnaissance, early warning, command and control, information counter measures and interception.

As regards the engineering component, accelerated work has been undertaken for establishing a system to cater for both specialised and multi-functional engineering support forces which can be employed during peace and wartime. Capabilities have been strengthened in the areas of close engineering support, speedy breaching of obstacles, comprehensive protection, counter-terrorist explosive disposal, emergency rescue and disaster relief. A preliminary integrated system of nuclear, biological and chemical early warning, reconnaissance and monitoring, protection command and protection forces has also been established. The Army Aviation wing is in the wake of a transformation from being a support force confined to transportation missions to being an integrated combat force focused on armed helicopters and air assault missions. This entails stepped up training in fire assault, airborne operations, air transport operations and active participation in counter terrorism, stability maintenance, border control, disaster relief and joint exercises. The ultimate aim is to

build a well-equipped and multi-functional Army Aviation force which is the right size and optimal in its structure.

Rapid Reaction Force (RRF)

The PLA's conceptualisation of ''rapid reaction'' capability emphasises adaption of warfare scenarios and developing quick response to varying battlefield contingencies. ''Adaption'' and ''responsiveness'' are the two key elements of developing a rapid reaction force (RRF). Essential facets of ''rapid reaction'' capability encompass ''Active Defence Strategy'', ''Inferiority vs. Superiority'', ''Weak vs. Strong'' and ''Offensive Strategy,'' with mobility being the key element. The PLA has developed competitive, high tech based RRFs (*kuaisu fanying budui*) to cope with future small scale, intensive combat and military operations. To enhance the operational readiness of the RRFs, the PLA has taken number of measures. These include identification of contingency tasks and prioritisation, evaluation of war zone environment (*zhanqu*), validation of operational plans through training exercises and sound logistics. Besides promulgating policies to enhance RRFs' combat proficiency, the CMC has also issued a document entitled ''Regulations for Constructing Rapid Emergency Mobile Contingency Forces'' (REMCFs) as a blueprint for training. This entails consolidation of ''three attacks and five defences'' (*san da wu fang*) (attack stealth aircraft, cruise missiles and helicopters; defend against precision strikes, electronic warfare, and enemy reconnaissance) and implementation of ''three real trainings'' to improve the capabilities of ''precision weapon systems.''

A 100,000 strong RRF, established in 1994, was bolstered by a 300,000 personnel of REMCF in 1997. It is evident that the RRF and REMCF are expected to be the backbone component of the PLA in the near future. These are mission-oriented task forces, designed to meet the PLA's revised strategic perceptions in the post-Cold War era, and also to deal with domestic and peripheral potential threats if required. The establishment of the RRF and its development is also linked to the PRC's reviewed security concerns, especially vis-à-vis the Taiwan Strait, South China Sea, Tibet and Xinjiang.

Logistics

An integrated logistics system has been accorded high priority. As part of war zone restructuring, a project for the establishment of a ''digitised support system'' was

initiated. This was aimed at strengthening ground forces' interoperability with the other services for conducting joint operations. The proposed joint ''just-in-time system'' connecting the command headquarters with supply, rescue and maintenance units through shared information networks will negate the previous system, tailored to cater for the specific war zone. The digitised support system is, in fact, designed to promote a proactive and not reactive approach to logistics reforms. Thus, by aligning joint operations and support systems, the overlap will inevitably get streamlined, reducing stocks and inventories, leading to improved efficiency.

The ''focused logistics support system'' has been introduced to sustain operations in key strategic and operational domains. The logistics support is to be provided through ''Joint Support Groups'' comprising of ''War Zone Rapid Response Support Brigades'' and ''Service Support Units''. The ''Rapid Response Support Groups'' are largely based on the newly restructured mobile ammunition, fuel, medical, transportation, repair and supply depots units, which are controlled by either sub departments of the War Zone Joint Logistics Department or Logistics Departments of War Zone based services. On the battlefield, the Army's Rapid Response Brigades are responsible for supporting operations of GAs (Group Armies). The centralised digitised support system for changeable goods, when fully implemented will enhance jointness by tightly interlinking a decentralised support system for a specialised items inventory of the four services. The erstwhile service centred, top-down support system from War Zones to GAs to Divisions, totally neglected horizontal supply relations. The new ''joint support system'' is geared towards developing sustainable, efficient and mobile operations. As part of its modernisation programme, the PLA is pragmatically investing its scarce resources in building logistics reserve units in partnership with local governments and civil agencies. The most distinct characteristics of this shift are the entrepreneurial efforts to adapt to the emerging economic system and smart use of civilian resources, allowing greater military say, over non-military policy considerations. With a strong cooperative interface among the services and between military and civilian sectors, the PLA seeks to put seamless integration programme in place, which will be central to the re-building to its support forces for the pre-emptive and asymmetric strikes.

Training

As the modernisation of the PLA progresses and systems becomes more complex, the human dimensions that encompass training, education and personnel management has become increasingly critical. As per the belief of Chang Mengxiong, a noted Chinese military theorist, it is the human factor which will be more prominent in high technology warfare. Chang's words underscore the important relationship that Chinese strategic thinkers ascribe between military education and combat effectiveness in the future. The Military Training and Evaluation Programme (MTEP), which sets the standards for training and evaluation of all types of units and headquarters elements, guides PLA training for both active and reserve units. The MTEP is modified according to the new requirement and acquisition of new capabilities.

The General Staff Branch formulates annual training tasks which are specific to a particular region or service. Formations and units are often assigned specific topics for experimentation, in order to develop and refine operational and tactical procedures. Training guidelines which were issued in early 2007 laid emphasis to achieve high standards in jointmanship, trans-regional roles and operations under electronic warfare conditions. The Chinese Ground Forces are involved in range of training activities.

The training is role specific. Rapid mobilisation and deployment, optimal employment of fire power and defence against mission attacks are common features in most of the exercises. The PLA General Staff Department (GSD) Training Guidelines for 2007 reflect the growing emphasis in enhancing the training standards to prepare the PLA to successfully fight the high intensity, information centric conflicts against a technologically superior adversary like the United States. These guidelines advocate and promote the transformation from ''military training under mechanised conditions'' to ''military training under informationised conditions'' as the main theme governing future military training. The specific thrust of 2007 GSD Guideline and implementation encompassed the following facets:

- training scenarios to be as close to the combat conditions as possible;
- training to be under realistic conditions to temper troops in a real war environment. To this end, opposing forces in the form of ''Blue Forces'' have been designed to inculcate innovation and initiative amongst the participating troops, simulating the ''fog of war'' environment;

- second artillery to focus on inter-theatre deployment to counter the enemy's precision strikes and electronic warfare attacks; and
- the PLAAF to devote attention to conducting night training and more sophisticated exercises.

As a result of these guidelines during 2009–2010 the PLA conducted a number of important military exercises in TAR (Tibetian Autonomous Region) and adjoin regions. These among others included joint army–air exercises at high altitudes; 4700m and above to test the efficacy of troops to operate in these conditions. Similarly in another exercise trans-regional mobility was practiced. The exercise was codenamed 'Stride 2009' and four divisions from the Shenyang, Lanzhou, Jinan and Guangzhou military regions participated. The exercise entailed cross-MR movement and rapid build-up to deal with multiple contingencies. A similar exercise was conducted in 2010. The exercise entailed short notice mobilisation of 30,000 troops from Beijing MR for deployment in the Chengdu and Lanzhou MRs, responsible for security of Tibet and border regions opposite India, Nepal and Myanmar. Significantly it was carried out in an adverse electromagnetic environment. The exercise included counter penetration and attack operations.

In another exercise the Chengdu Military Area Command (MAC) participated in an exercise, entailing the rapid mobilisation, deployment and conduct of defensive and offensive operations. Approximately 10,000 troops took part. Highlights of the exercise were the fielding of a command level decision support system by use of integrated command platforms with real-time sharing of information and battlefield assessment in a net centric warfare environment. This was first time the Chengdu MAC applied the integrated command platform in a campaign-level actual-force combat exercise. The main impact was shortened time for combat readiness and level of transition, and also enhanced organising and commanding capability by using the information system under close-to-actual-war conditions.

Similarly, simulations, war games and command post exercises have been accorded highest priority with a view to exposing commanders to improved processes of planning and decision-making. These techniques have been found to be relatively low cost, allowing officers and soldiers to accumulate valuable experience in an economical manner. These measures are seen to contribute to the development of an accurate appraisal of combat capabilities and readiness.

Human Resource Development

Notwithstanding above steps in implementing training reforms, the PLA continues to face several problems. One of the acknowledged facts is that military training suffers from heavy scripting and a lack of realism. Such deficiencies need to be addressed to achieve any long-term improvements. With the ongoing modernisation and systems becoming more complex, the human dimensions of the PLA have assumed critical importance. Way back in 1995, Chang Mengxiong, noted Chinese military theorist, when airing his views in the ''China Military Science'' publication stated that the human factor will be of immense importance in the high tech warfare. Chang's words underscore the importance that Chinese strategic thinkers attach to the interface between ''human resource development'' and combat effectiveness. The PLA is a conscript force, led by contingent of volunteer NCOs (non-commissioned officers) and officers. From 1999, the conscription period was brought down to two years, from three years, for the Ground Forces. The age bracket is 18–22 years. Towards the end of the service engagement period, selected conscripts can volunteer to serve as NCOs up to the age of 30 years. Since 1999, the PLA implemented a new NCO system wherein the ambit of NCOs duties was expanded and their numbers increased while the strength of officers and conscripts was reduced. In the recent years, the PLA began enlisting limited numbers of civilians with special skills to become NCOs after undergoing short, introductory training.

For the intake of officers, in 1999, China started the Reserve Officers Training Corps (ROTC) by commissioning half of its new PLA officers from the leading universities. The aim is to attain better, technically proficient, military leaders for the high-tech future battlefield environment. A total of 112 major education centres are commissioning officers for the PLA under the ROTC scheme. The PLA has also initiated the ''strategic project for talented people'' which aims to develop commanding officers with the skills needed to lead ''informationised wars,'' staff officers with operational planning expertise, scientist and technical specialists and a cadre of NCOs with subject domain expertise in the employment of complex weaponry. As the nature of warfare continues to evolve, Beijing is increasingly relying on education as an instrument of strategic advantage by enhancing the NCOs education.

The PLA aims to build a cadre of ''strategic tacticians'' who, while operating at the tactical level, are cognisant of their role within the national war effort. In May 2007, the PLA launched a research programme to offer ''theoretic guidance for transformation of military training and academic education, throughout China's professional military education''. While transformation of China's education system began in the 1980s, it was Deng Xiaoping who made professional military education (PME) a strategic priority for the PLA. As a result, China's leadership has implemented sweeping organisational reforms, commissioned substantive pedagogical research and has succeeded in institutionalising a largely standardised PME into PLA culture. By transforming its entire PME system, the PLA has taken an important step to increase its military effectiveness at all levels of war, from tactical to strategic, by enhancing the quality of personnel. Alongside, the PLA has gone in for massive upgrade of its training infrastructure. These include state of art training areas, automated firing ranges, modern simulation systems and composite training facilities, which have been created and where large scale live training exercises can be conducted to validate new doctrines and concepts. A number of steps have been taken to improve the living standards of the PLA personnel. Soldiers have been kitted out with new types of uniforms, including Kevlar type of helmets and berets. Pay and benefits have been increased substantially. The quality of rations has been improved considerably to provide a greater variety of food and beverages. Living barracks throughout China have been refurbished and facilities such as washers, dryers and air conditioners have been provisioned.

Conclusion

The PLA modernisation is attuned to prepare the ground forces for the future assigned missions in an informationalised environment to the best of their ability. The longer they get to modernise and prepare for those missions, the greater their chance of success. Beijing's own estimate of another 10 to 20 years for the modernisation programme to reach advanced standards is realistic.

The focus of the ground forces remains on building special operations forces, long range missile, helicopter, and high-technology units to be used in the early stages of a campaign to support the missile, air, and naval forces that most likely will engage the enemy. Large-scale amphibious operations are also becoming an important part of

Chinese expeditionary thinking, as indeed it focuses on dealing with threats along its land borders. By monitoring Chinese the media one can follow to some extent the type, size, and content of some PLA training; however, accurately judging the quality of training or proficiency of units is problematic. While the PLA has certainly improved its capabilities over the past decade, much of its training still appears to be relatively basic. For example, despite the emphasis on joint operations, no PLA officer has actually planned for or commanded under combat conditions of the type of operations the new doctrine envisions. Tellingly, in the past two years the PLA has created the term integrated joint operations to remind commanders that they must include all elements of combat power in exercise scenarios and training.

Furthermore, the PLA does not train for or even have the doctrine to execute close air support, and the number of helicopters in the force is so small as to severely limit the size and frequency of airmobile training. Nonetheless, the PLA understands its limitations and is working hard in addressing them. A qualitative difference between the PLA Army and the Indian Army is that the former recognises its shortcomings and is taking steps to address this at the political and CMC level, in India this appears to be the concern only of the Army with the bureaucratic–political establishments at best paying lip service only.

Notes

1. Susan L. Craig, ''Chinese Perceptions of Traditional and Non-Traditional Threats'', Strategic Studies Institute Report, March 2007, http://www.StrategicStudiesInstitute.army.mil/, p. 18.
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3. ''Development of Military Institutes a Priority: Jiang Zemin'', Xinhua News Agency, September 2, 2003, http://www.china.org.cn/archive/2003-09/02/content_1074056.htm, (accessed January 20, 2012).
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