



VIVEKANANDA INTERNATIONAL FOUNDATION

China's Strategic Posture in Tibet Autonomous Region and India's Response

National Security Alert

**CHINA'S STRATEGIC POSTURE IN TIBET AUTONOMOUS
REGION AND INDIA'S RESPONSE**



Published in 2012 by
Vivekananda International Foundation
3, San Martin Marg, Chanakyapuri,
New Delhi – 110021,

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List of Abbreviations

AEW&C	Airborne Early Warning & Control
AFNET	Air force Network
ALG	Advanced Landing Ground
ATC	Air Traffic Control
ATM	Automated Air Traffic Management
AWACS	Airborne Warning & Control System
BMC	Bi- Modular Charge
BRO	Border Roads Organisation
BSNL	Bharat Sanchar Nigam Ltd
CADF	Commutated Automatic Direction Finder
CAINONET	China's Advanced Info-Optical Network
CBI	Central Bureau of Investigation
CCI	Cabinet Committee on Infrastructure
CCS	Cabinet Committee on Security
CMC	Central Military Commission
CPC	Communist Party of China
CSG	China Study Group
CSS	China's Surface to Surface (NATO Code Name for China's missiles)
CVC	Chief Vigilance Commission
DF	Dong Feng (Missiles)
DRDO	Defence Research & Development Organisation
DTD	Dual Tasked Divisions
ECM	Electronic Counter Measures

EGOM	Empowered Group of Ministers
EMP	Electro Magnetic Pulse
GA	Group Army
GLD	General Logistics Department
GPS	Global Positioning System
HALE	High Altitude Low Endurance
IAF	Indian Air Force
IMF	International Monetary Fund
IOR	Indian Ocean Region
IRBM	Intermediate Range Ballistic Missile
JARM	Joint Attack Rocket & Missile
JLS	Joint Logistics Support System
LAC	Line of Actual Control
MAC	Military Area Commands
MAFI	Modernisation of Airfield Infrastructure
MD	Military District
MMRCA	Medium Multi Role Combat Aircraft
MR	Military Region
MRBM	Medium Range Ballistic Missile
NATO	North Atlantic Treaty Organization
NBC	Nuclear, Biological, & Chemical
NDMA	National Disaster Management Authority
NPC	National People's Congress
NSPP	National Security Perspective & Preparedness
OFC	Optic Fiber Cable
ORBAT	Order Of Battle

PAR	Precision Approach Radars
PLA	People's Liberation Army
PLAAF	People's Liberation Army Air Force
PLAN	People's Liberation Army Navy
POK	Pakistan Occupied Kashmir
PPP	Purchasing Power Parity
PRC	People's Republic of China
QTR	Qinghai Tibet Railway
RRF	Rapid Reaction Force
RRU	Rapid Reaction Units
SAM	Surface to Air Missile
SCS	South China Sea
SRBM	Short Range Ballistic Missile
SRE	Surveillance Radar Elements
TAR	Tibet Autonomous Region
TRSO	Trans- Regional Support Operations
TSA	Terminal Sensing Ammunition
UAV	Unmanned Aerial Vehicle
UHF	Ultra High Frequency
VSAT	Very Small Aperture Terminal
WWR	War Wastage Reserves
WZC	War Zone Concept

FOREWORD

Relations between India and China are poised to affect and influence the global economic and strategic aggregates, which would significantly determine peace, security and stability in Asia in the coming decades. History denotes that interaction between two emerging powers is a contrasting blend of harmony and discord; India and China are no exception. The expanding economic and trade engagement between the two countries on one hand, and concomitant muscle flexing on the other, is a representation of this contrasting dyad.

China by its own reckoning is an “emerged” power while India remains an “emerging” one, whatever be the subtle nuances. China has an edge over India in economic, political, diplomatic and military capabilities with a converging national will to project its power. This has led to aggressive regional and international posturing by Beijing; recent developments in the South China Sea and accretion in military activities along the Indo-China border are illustrative of this. Concomitantly, political schism within the ruling coterie, growing restiveness among workers and peasants, defiance of authority in Tibet and other minority regions, economic slowdown expose some of Beijing’s vulnerabilities. China is also witnessing muted but unmistakably clear signals of disquiet among many countries of the region, including India, about its militarization programmes and activities. These contra-indicators could serve as triggers for externalizing conflicts, and enable it to consolidate its position within, allowing it to make its external assertions credible.

China pursues a policy of increasing its economic, diplomatic and military engagement in India’s neighbourhood, thereby eroding India’s influence and clout amongst its neighbours. This could translate into military cooperation some day, involving troop deployments, which have manifested in some form in POK, and may arise in the Indian Ocean Region (IOR) ostensibly to secure the long sea lines of communications to West Asia. Together this could seriously impact upon India’s security.

China’s aggressiveness and expansion of territorial claims is buttressed by the military modernisation of the People’s Liberation Army (PLA), PLA Air Force (PLAAF), PLA Navy (PLAN) and the Second Artillery. Infrastructure development, with considerable

military significance in the Tibet Autonomous Region (TAR), has witnessed major accretion in the last decade. The upping of the ante of military preparedness is also discernible through deployments of the PLAAF and Second Artillery in Tibet, training exercises conducted on the Plateau, particularly in the winter months, and integrated network of logistic nodes. This has been assessed to provide the PLA with the capability for speedy launch of operations sustainable over a period of time should it chose to do so. By contrast, India's process of military capacity enhancement is vigorously "catching up" in bridging a possible gap in the overall defence and deterrence posture.

In this backdrop, the Vivekananda International Foundation (VIF) has closely examined and analysed contemporary developments in China's military posturing and its implications on India. Towards this end, discussions with experts, both from India and abroad have taken place on the probable strategic trajectories China could espouse in a changed global power configuration, militarization (its thrust area and implications), quantum and direction of defence spending emanating from its rapid increase in economic prowess, changes in military doctrines etc. At the strategic and tactical levels, developments in TAR, with which India shares a border of nearly 3,500 kms, has been of singular interest to India. A multi- disciplinary team led by Gen. NC Vij (Retd.), former Chief of Army Staff, comprising of eminent experts from defence forces, diplomatic, academic and the strategic community deliberated on the subject. As part of this endeavour, a seminar was held in the VIF on September 3, 2012 followed by several rounds of discussions for holistic appreciations of the ground situation. Several experts, senior officers representing the National Security Council Secretariat, the Services Headquarters and Ministry of External Affairs participated in the seminar. As a sequel to these efforts, the VIF is pleased to bring out a report on the deliberations of the group. Part-I of the report provides a holistic appreciation of China's overall strategic policy in Tibet. Part-II analyses and examines in detail China's military posturing in TAR and Indian responses thereof.

I hope the paper will contribute to the existing debate on the subject and assist policy makers in their deliberations.

Ajit Doval

Director, Vivekananda International Foundation

October 2012
New Delhi

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Gen. N C Vij (Retd.), *former Chief of Army Staff & Founder Vice Chairman, NDMA*

- *(Chairman)*

Vice Adm. K K Nayyar (Retd.), *former Vice Chief of Naval Staff*

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PART I

STRATEGIC POSTURE OF CHINA IN TIBET AUTONOMOUS REGION AND ITS IMPLICATIONS: IS INDIA PREPARED?

STRATEGIC POSTURE OF CHINA IN TIBET AUTONOMOUS REGION AND ITS IMPLICATIONS: IS INDIA PREPARED?

Gen N C Vij (retd)*

PART- I

The Context – Strategic Landscape

1. China's rise as a major international actor is certainly a defining feature of the strategic landscape of the 21st Century. It has ramifications for the entire world but most definitely for India and also for China's other Eastern neighbours. In its quest to emerge as a global power, China has sought to compete with and counter the United States and thus has definitely gained capabilities against India.

2. That China's comprehensive military modernization programme is aggressive in nature is abundantly evident from their approach as explained below:-

(a) President Hu Jintao, in 2004 articulated the new guidance for the People Liberation Army (PLA) to include missions extending beyond China's immediate territorial interests; with obvious portents.

(b) Their preparedness is designed to improve the capacity of the PLA to fight and win, what they call Local Wars (the character used for Local can also be interpreted as Regional) of short duration under conditions of informatization meaning high intensity, information – centric military operations.

(c) Chinese leaders see this modernization as a central component of their strategy to advance China's national development goals in the 21st century.

(d) In his report during the 5th Session of 11th National People's Congress (NPC) in 2012, Chinese premier Wen Jiabao reiterated the requirements for building the national defence and the Armed Forces capability to accomplish a wide range of military tasks, including the local/regional wars under the conditions of information age.

Will China be Adventurist against India?

3. It is only axiomatic that if China has to emerge as a global power, it must first establish an unchallenged supremacy in its immediate neighbourhood. India is the only country in the region, which can be a competitor on both economic and military fronts. Moreover, China's geopolitical interests are fundamentally adversarial to that of India. The examples are numerous, starting with the unrest in Tibet for which they hold India as responsible; their friendship and continuous support to Pakistan, a hub of global terrorism and source of permanent security headache to India; ensuring denial of a permanent seat to India in the

Security Council, instituting a system of stapled visas for our people from Arunachal Pradesh, and building of such a massive infrastructure in TAR to support military operations etc. For them it is essential that India is put in its place; the only question is as to when? Some experts may still argue that China gains nothing by attacking India but so was the belief even before 1962 war. The argument may be taken further that the Chinese are our biggest trading partners and both countries are moving towards even more improved relationship but then why even the maps have not been exchanged in the process to settle the border dispute between the two countries after a decade of parleys.

4. Such a debate can go on endlessly, but military analysts without exception understand that the relations between two countries and the intentions of adversaries can undergo change anytime as a consequence of many imponderables, but military preparedness cannot be attained overnight as it takes an inevitably long gestation period of at least 10-15 years. So the wisdom lies in preparing and ensuring the security of our borders alongside building friendship with China. Let us remember that friendships prosper only amongst equals.

5. So the question that arises is as to what time slot will suit the Chinese the most. This could be within the next 3-5 years block; wherein the level of preparedness and readiness for war of the Indian Armed Forces is itself under active debate in the country, or later. Presently the saving grace is that the Chinese themselves are no-where close to their desired level of modernization. Alternatively this could take place after 2020-25, when they will be fully ready and the asymmetry between the two sides would have increased exponentially, should we continue at our present sluggish pace of modernization.

6. As far as offering a justification to the rest of the world for their adventurism; the Chinese have evolved a widely publicized strategy of "Self Defence Counter Attack", which is a multipurpose formulation that they use to describe most instances where China has initiated the use of force that means that the PLA will launch the "first strike". China's 1962 War with India and Border War with Russia of 1969 fall under this category. These two possible time frame contingencies are being discussed subsequently in this paper but first, we need to analyze the nature of Chinese modernization programme.

CHINA – LEVEL OF MODERNIZATION

7. Since Taiwan retains their principal priority focus, their modernization programmes assign priority to the forces deployed opposite Taiwan, South China Sea (SCS) and East China Sea. Work on troops deployed in Tibet Autonomous Region (TAR) comes next but almost concurrently.

8. A detailed analysis of their level of preparedness in **TAR** is attached as **second** part of this paper. However, it can be safely assessed that any operations in TAR will not remain confined to that region itself but will **spread to an all spectrum war**, because Pakistan will invariably jump on the bandwagon of the Chinese to draw full advantage. So an analysis of the war on both fronts will be advisable. For that reason, some salient aspects of the preparedness

levels of the PLA are being recapitulated here for ease of drawing assessments. The time line of completion of their modernization programme has been set at 2020, but there are slippages and it may go to 2025 or so.

Budgetary Allocations - China

9. This is the most important part. The estimates about China's Defence Budget, as per the US and Taiwan are pegged at approx. 180 Billion US dollars for the year 2011.

10. Three aspects which merit emphasis in this regard are :-

(a) Indian defence budget is in the range of 36 Billion US dollars. Funds for the modernization, amount to only 12.87 Billion US dollars.

(b) Even if one was to overlook the widened gap over the last few decades and make an assessment only from here onwards, the budgetary gap between the two sides will increase to over a trillion dollars' worth of equipment in the next six years i.e., 2018 and subsequently even more at the present rates of allocations.

(c) And even more significantly the Chinese are incurring this level of expenditure when :-

(i) More than 80 percent of their weapon systems are being produced indigenously at much lower costs.

(ii) On the other hand, with virtually more than 70 percent of our military being imported, India is paying two to three times the actual cost of the equipment.

11. So the conclusion is obvious, that the gap of military potential between the two countries will increase exponentially with passage of time. It is at that stage that China will perhaps start putting pressure on India to fall in line with them. Now a quick analysis of the individual force structures of the Chinese.

Ground Forces

12. **Total Force Levels Available in TAR for Operations.** 13 and 14 Group Armies from Chengdu Military Region and 47 and 21 Group Armies from Lanzhou military region can be deployed. 13 Group Army is designated as a Rapid Reaction Force and 21 Group Army as an offensive mobile force. They can concentrate up to seven divisions in TAR within one week; 12 divisions in 20-30 days because of the QTR (Golmud to Lhasa – 1142 Km and passes over 16,640 feet at Tanggula pass in Kunlun mountain range). What is equally significant is that they can mobilize a "Rapid Reaction Division" into Lhasa within 24-36 hrs and deploy up to two to three heli- lift battalions. This is a sizeable threat and needs to be catered for, provided the Chinese can attain the favorable air situation of the level required to carry out heliborne operations.

13. **Infrastructure**

- (a) A 2413 Kms long highway connects Chengdu with Lhasa with many off shoots running towards the border.
- (b) Both the QTR and the oil pipe line will be vulnerable to interdiction operations from both ground and air. At Nagqu, logistics base, they are in the process of building up handling capacity of 3.1 million tons, which is sizeable.

14. **Force Structure.** Their ground forces were quite antiquated in the nineties. Even today -

- (a) They suffer from significant shortcomings in command and control, air defences, communications and lack of combat experience.
- (b) From mid-2011 onwards, they have begun the process of transforming parts of their forces into 'modular combined arms brigade' focused force structure. This concept is yet to be tested on the ground especially in the hills. The Indian Army must be in the process of analyzing their efficacy.
- (c) Presently growing numbers of modern heavy-armour, long range strike Artillery and increased range air defence weapons are entering service in selected units, primarily those which may be deployed opposite Taiwan. The up gradation includes T-99, third generation Main Battle Tanks, new generation amphibious assault vehicles and multiple rocket systems. Z-10 attack helicopter is a significant addition, even though the Aviation Wing itself with the Army formations is of recent origin. UAVs are being used for target acquisition and damage assessment at unit level.

Second Artillery Corps

15. This force is peculiar to the Chinese Armed Forces, wherein they have concentrated ballistic, cruise and battle field missiles which have been integrated through a dedicated C4I2SR network.

16. This force has between 450-500 nuclear weapons. Taiwanese estimate that this number will increase to 800 in this decade. These nukes are over and above what their Navy and Air Force have. This force will also be used for, what they call resolute counter attacks, in both conventional and nuclear type of scenarios. They have also acquired tactical nuclear weapons in large numbers.

17. There are many conflicting views about the usefulness of "tactical nuclear weapons". NATO forces had found during the Cold War that the numbers required for various contingencies were exorbitant and also not commensurate to the desired outcomes and thus their employment remained somewhat questionable. In our case, in the mountains, the efficacy of these tactical nukes may be further restricted, but this aspect needs to be studied in depth by the Indian Army. It is quite on the cards that the adversary may have very little compunction in the use of the tactical nuclear weapons. In the very least, the Indian Army will need to equip their troops in this operational area with **NBC clothing**.

Navy

18. They are primarily focusing on anti-air and anti-surface warfare capabilities and also developing a credible “at – sea” nuclear deterrent. The additional attack submarines, multi-mission surface combatants and fourth generation naval aircrafts are designed to achieve sea superiority within **first island chain**.

19. They have 79 Destroyers/ frigates and 50 submarines. The Aircraft Carrier (Kuznetsov) will be functional by end 2012 but the air component will take at least 5-7 years more. In the long run, they will develop but their capability for **carrier based operations** will remain of **limited nature** for at least a decade and limit them to operate in only South China Sea and East China Sea up to first and second chains of islands. Indian Ocean will be outside their operational capability for foreseeable future provided Indian Navy develops as per the plans and in desired timeframe. However, the ‘**string of pearls**’ that they have created are certainly not for peaceful purposes and these are meant to serve their strategic goals in the Indian Ocean in times to come. Similarly, the access being created at Gwadar and Sittwe ports are with a view to get safe and unhindered entries into the Arabian Sea and the Bay of Bengal respectively.

20. Chinese submarine fleet is also developing fast and JIN Class (JL2) submarines (2-3 years away yet) will provide its Navy first credible sea based nuclear capability. This program has faced many delays already. They have presently **two** nuclear submarines and **five** more will be added in next 5-7 years.

21. They are developing **DF-21D**, so called ‘Carrier Killer’ and anti-ship ballistic missile (with a range of 1500-2700 Km) which will also be part of China’s nuclear deterrent forces. It can also fire, chemical warheads and “Electro Magnetic Pulse” (EMP), with maneuverable warheads. It will however take quite some time before they are operationally effective.

22. They have also developed extensive mines and torpedo denial programme under the ‘Anti Denial and Anti Access Doctrine’ for a Taiwan scenario. Overall, the Navy is still a work in progress but a potent threat for the future.

Air Force

23. Their Air Force is in the process of transforming to an offensive precision Strike Force with greater range and lethality. However, they are still in the nascent stages of developing ‘ballistic missile defence’ and ‘air-space integration’ needed for early warning. One most noteworthy point is that in the **nine** airfields that they have in Lanzhou and Chengdu Military Regions, there are no worthwhile hardened shelters for their aircrafts and they will thus be highly vulnerable for the present.

24. They are also continuing to modernize their ground based air defence ‘forces’ with introduction of new medium range ‘Surface to Air Missile’ (SAM). They have acquired multiple battalions of S-300 (latest Russian SAMs) and are also negotiating for SAM – 400 in large numbers.

25. In foreseeable future, they will have capability for net-centric operations and robust electronic protection. This is an area, in which India needs considerable improvement.

26. They have a sizeable air fleet of 490 aircraft of Second and Third generation, which include J-10, SU-27 and SU-30 besides many hundreds of lower grade aircrafts. **J-20**, a fifth generation stealth aircraft, is being propagated as a **game-changing** offensive weapon in the making. Badger TU-16 Bombers from Russia are being upgraded and **J-31** aircrafts are also being developed to match the American F-35 fighters but are still in the process of development. UAVs are, however, being imported from Israel. AWACs and mid-air refueling capabilities are still being built up.

27. The level of education of the pilots and their leadership qualities etc. are under serious debate in the Chinese Air Force. They lack presently the capability to take on Air Forces with good standard of training like the IAF, but are fast moving in that direction.

Chinese Areas of Excellence -Asymmetric Warfare

28. **C4I2SR**. Is being developed in a big way to :-

- (a) Enable commanders to respond to complex battle field conditions with high level of agility and synchronization.
- (b) Will also lead to greater integration amongst the three services.
- (c) India needs to accelerate development of its own capability in this domain to deny Chinese an edge in this field.

29. **Space and Counterspace Capabilities**

- (a) Have deployed satellites which enable real time transfer of data to ground stations.
- (b) Are also developing multi-dimensional programmes to limit or deny the use of space-based assets by adversaries. These provide them capabilities of laser and micro-wave jamming.
- (c) Their effort will be to jam the adversary's, "command and control" and the "fire-control" systems.
- (d) These programs are, however, still facing challenges and their satellites are generally suffering from malfunctioning.

30. **Cyber Warfare Capability**. Intrusion and data theft are being used to collect strategic intelligence. They can also try and disrupt enemy's essential services like air, railways and banks etc. (Business Continuity Process). This is causing great concern to the US and all other countries like us in the region.

31. **Threat from Electro Magnetic Pulse.** US is also very concerned about the possibilities of nuclear warhead bursts in the atmosphere to create an “electromagnetic pulse” attack with the intention to temporarily or permanently disable the electronic circuits. India also needs to acquire and build up counter capabilities in this regard expeditiously.

32. **Nuclear**

(a) Whereas the US, NATO countries and the Russian have exercised great reductions, the Chinese are continuing to build up their arsenal. Even more worrisome is the fact that the use of Nuclear weapons is being built up as a part and parcel of their strategy for furtherance of their ground operations.

(b) Their stated “**No first use**” policy is not explicitly stated and it commits them to nothing. In any case there is hardly a doubt that against Taiwan, this policy of ‘No first use’ will not be applicable’, should they fail in their “anti-access and anti-denial strategy”.

(c) There are questions as to whether ‘demonstration strikes’ or ‘high altitude bursts’ would constitute a first use or not?

(d) It appears that they will have no hesitation in the first use of “tactical nuclear weapons”.

INDIAN SCENARIO

Role Envisaged for the Indian Armed Forces

33. Gen Liu Yazhou who is considered the Douhet of the Chinese Air Force in his essay on “Grand National Strategy” has professed a **two-front** war against India giving full support to Pakistan. Thus, in case a war breaks out because of China's adventurist designs, a “two fronts scenario” is likely to become almost a certainty. In such a contingency, the Indian Armed Forces will need to generate a punitive deterrence capability vis-à-vis Pakistan and optimal dissuasion vis-à-vis China. More simply put, it means that we must have a ‘superiority ratio against Pakistan and optimal parity against China’.

34. **Imperative Need of A Strike Corps.** Against Pakistan, India had no option but to raise three Strike Corps to tilt the balance in our favour. By the same analogy, with no offensive capability against China, we will be reduced to somewhat like a boxer in the boxing ring, who wants to fight a bout only through a defensive guard and without throwing any punishing punches to the adversary. Such a strategy can only lead him to humiliation because he is not fighting for victory anyway. Besides this, operationally there are many areas on the Chinese side, wherein pre-emptive deployment by the Indian Army immediately on the outbreak of the hostilities, can be exploited to disrupt the flow and synchronization of the Chinese operations. With our present force levels, fighting aggressive defensive battle will be completely out of question. It is thus

high time that the Government of India issues the directive for raising of the much delayed **Strike Corps**. The argument that any raising of force levels along Northern Borders will cause concern to the Chinese is naïve and puzzling to the say the very least, especially in view of the fact that the Chinese themselves have built up disproportionately most potent and threatening capabilities and infrastructure in the TAR. I remember distinctly well that similar arguments were being offered at the time of our raising of 'South Western Command'; but very prudently the Government of India went ahead.

35. We also need to prepare for unified operations in all five domains i.e., Land, Sea, Air, Space and Information/Cyber. The preparatory work on operational plans also needs to be carried out jointly.

36. The reserves in ammunition, missiles, spares and ancillaries for a minimum period of 90 **days** at an intense rate need to be created in a **crash** time frame. These shortages remain one of our biggest areas of weakness. All other aspects warranting improvement have been projected by the three Services to the Ministry of Defence and work on them must proceed with a sense of urgency.

POSSIBLE CONFLICT SCENARIOS

A War in Next 3-5 Years

37. A balanced analysis of the Chinese Armed Forces will show that :-

- (a) Their Armed Forces are still in varying stages of progression.
- (b) Since their priority focus of development is towards Taiwan, there are still many facets of weaknesses in TAR.
- (c) Their Navy does not presently have the capability to take on the Indian Navy in the Indian Ocean. This capability is not likely to be achieved over next 8-10 years.
- (d) Their shipping can certainly be choked in Malacca Straits thereby shutting off their energy replenishments. The proximity of Andaman and Nicobar islands to Malacca Straits offers us tremendous advantages in terms of capabilities for **effective air-sea** operations against the Chinese.
- (e) The Indian Air Force has the advantage of operating from the ground level in the North-East, which provides them far greater endurance. We also have advantage in terms of availability of much larger number of air fields. It is well within the capabilities of the IAF to inflict heavy losses on the Chinese Air Force in the first 72 hours itself, as their aircrafts will be in the open. This will appreciably restrict the capability of the PLA Air Force to support the ground operations.

(f) The Chinese capabilities in the asymmetric warfare will still be a work in the progress in this time block, especially in the mountains. Also the efficacy of modular mountain brigades in the hills is still to be tested.

(g) Finally, the Chinese themselves are seriously carrying out in-depth studies with regard to their problems of lack of combat experience and also leadership abilities especially at junior levels. The Indian Armed Forces are much **superior** in this respect.

38. **Progress of Operations.** The assessment being offered here **pre-supposes that the Strike Corps** will be in place over next two years and **all the shortages in ammunition, missiles and spares would have been made up.** These are **operational imperatives** and not open to questions. In such a case:-

(a) The terrain and the ground offer us the biggest advantage.

(b) For the first twenty-thirty days, we can generate near equal parity in forces, which will deny them the required force superiority for an attacker and render their operations most difficult and sluggish.

(c) With some innovation in our '**Grand Strategy**', India may well look upon the option of creating some "Dual Tasked Divisions" for the North-East and Ladakh Sectors in a certain time frame e.g. after their task on the other front is done.

39. However, most importantly there is a requirement to carry out "**Joint Planning**" for such operations on priority by all the three Services together in the same fashion, as would have done for some other contingences. With all such preparations, India will be able to hold its own and leave the adversaries **embarrassed**. It is however **emphasized** that there is no scope for complacency because if the preparatory measures, as outlined in the beginning of this para, are not implemented, the situation can turn **embarrassing** for us.

A Conflict Scenario after 2020-25

40. By this period, the Chinese modernization programmes would have fully fructified. On our side, if the projected shortfall of arms and equipment worth **155** billion US dollars for the three Armed Forces is not made up in these 10-12 years, the potential gap between the opposing sides would have increased exponentially, posing grave risks to the Indian security.

41. More than the conventional operations, the **asymmetric warfare** will pose graver threat. Therefore, we must focus on the following aspects with renewed vigor:-

(a) India must prepare for the **asymmetric** warfare on priority and defeat the adversaries in that. Technology must be the buzz word.

(b) A much higher degree of priority needs to be assigned to aspects related to the informatization, like C4I2SR, counter cyber operations, optimal utilization of space assets and Counter EMP measures.

(c) Counter Ballistic Missile Defence must be built up.

- (d) India needs to accord greater importance to **precision** strike munitions
- (e) Improvement of infrastructure in the North East needs to be carried out in the desired time frame without slippages.
- (f) India must also take a policy decision about our response in case of use of tactical nuclear weapons by the adversaries. In any case, our troops have to be **kitted** with NBC protective clothing and equipment hardened.

Ensuring Consistency and Continuity in our Defence Preparedness

42. A question that naturally arises is that “if we are so well seized with our requirements, then how come the Indian defence preparedness never got the kind of attention that it merits”? The reasons could be the following two, (i) a thought process in the minds of some arm-chair strategists that in the modern days wars are outdated, and/or (ii) the illusion that our strategic assets ensure safety and security for us. Both are **unsound assumptions** because wars are still being fought and there is still space for conventional operations even in a nuclear overhang. Some ambiguity and lack of clarity, possibly because of above like arguments, have very seriously hampered a decisive approach by the successive governments and resulted into lack of preparedness levels. However, to obviate all such problems, it is my conviction, that it will be most useful to share ‘National Security Perspective and preparedness’ with the **leadership** of the country, including leaders of the major opposition parties, through bi-annual presentations to them by the **three Chiefs**, formally in camera. This will ensure broad consensus and sustained **bipartisan** political support. I am convinced that no Indian will ever accept unpreparedness in defence at any cost. Till this proposal gains acceptance, in the very least, a system must be introduced wherein; the **Chiefs** make formal presentations to the ‘Cabinet Committee on Security’ (**CCS**) on half yearly basis. Ideally all the members of the Parliamentary Standing Committee for Defence or in the very least, the **Chairman** must be invited to these ‘**in camera**’ presentations. These must be frank and forthright preparedness status reports in terms of the desired capabilities to be attained and should also include the recommended measures to overcome areas of weakness.

Road Ahead

43. Alongside the operational preparedness, there are certain other improvements which need to be brought about in our National Security Apparatus. These have been pending for many decades:-

- (a) A greater degree of **jointness and integration** in the functioning of the three Services, on the lines of the recommendations of the ‘Group of Ministers’ is a **sine qua non**. The patch work solution offered by Naresh Chandra Committee by way of a

Permanent Chief of Staff with restricted role, as reported in the media, is most inadequate and needs to be rejected.

(b) The Services must be made a part of the National Strategic Planning Structure of the Govt. The prevailing system of the Ministry of Defence and the Services working in isolated compartments needs to be shelved and genuine integration effected for the good of the Country.

(c) The requisite fund allocations of 155 billion US dollars (at present estimates) over next 10 years must be made available for modernization over and above the normal annual budgetary allocations. Also equally important is the simplification of the procedures to provide the Services the capability to utilize these funds. **Pre-audit** and making **CBI** and **CVC** representatives as part of the weapons acquisition process will help solve the problem because then there will be no fear of backlash.

(d) We must seriously move towards **indigenous** production by our DRDO – Industry combine and acquire at least 50-60 percent capability in this regard over next 10-15 years.

CONCLUSION

44. These are challenging times. The Armed Forces have been crying hoarse about the weaknesses to be covered. The national leadership needs to take decisive steps and not bank upon the mirage of hope and possibilities of better relations developing between India and its adversaries. If that were to happen, then so much the better and would be welcome. However, history has proven that preparedness alone ensures the security of a nation. Any show of weakness on India's part can only serve to tempt adversaries to be adventurous. We certainly believe that the Indian leadership has the sagacity and the requisite will power to rise to the challenges presented in the case of Chinese posturing.

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Note

All information given in this paper (both parts) is from open sources. The assessment on the possible progression of operations is purely that of the author.

PART II

CHINA'S MILITARY POSTURE IN TIBET & INDIAN RESPONSE

CHINA'S MILITARY POSTURE IN TIBET & INDIAN RESPONSE

Preamble

1. China has emerged as a formidable adversary to India and is in the physical occupation of its sovereign territory, apart from laying claims over its large tracts of land. The growing asymmetry in power between the two may encourage the Chinese leadership to trigger a conflict with India for a variety of reasons. The interspersed sphere of influence between them in South Asia, Myanmar and the Indian Ocean Region also portends a clash of interests. Of the four perceived external areas of concern to the Chinese viz. US, Taiwan, South China littorals and India, it is only India that would possibly pose both a continental as well as maritime challenge to them. The Chinese discomfiture with India is not restricted only to territorial disputes, but stretches into their insecurity about continued unrest in Tibet.

2. Historically, China disregards all treaties signed with the colonial occupying power like Britain. This gives them a convenient excuse to not to acknowledge the Shimla Accord demarcating the McMahon line in 1914 with India. There also exists the past legacy of differences, including the boundary dispute and skirmishes in 1962, 1967 and 1986 and border standoffs through 2009-2012, officially called transgressions, which have resulted in ensuing constant low level friction between the two nations

3. In spite of the prevalence of discord on the land boundaries and on Tibet, the economic, political and cultural engagement between India and China conforms to global trends. China has emerged as the largest trading partner of goods for India. Intrinsic tensions between the two countries, however, continue to prevail. This is particularly the case because of the consistent improvement in the People's Liberation Army's (PLA) military posture on India's Northern borders (including Northern, Central and North-Eastern sectors) coupled with their military and nuclear nexus with Pakistan. India's military preparedness, unfortunately, has not kept up with these developments.

4. In a possible military confrontation with China, India has to be prepared for both, continental and maritime contingencies. This part of the paper focuses only on the continental contingency and evaluates the military postures of the two countries extending geographically from Western Ladakh to Arunachal Pradesh. A detailed examination of the military 'capability' factor which is tangible, and 'intent' as the intangible factor, has been carried out in the four delineated sections given below.

- (a) Part 1 - China's Military Capability in TAR
- (b) Part 2 - Assessing China's Intent
- (c) Part 3 – A Perspective on India's Military Posture
- (d) Part 4 – Major Areas Warranting Focus

PART 1 - CHINA'S MILITARY CAPABILITY

PLA – Assessment of Capability

5. The PLA is in the process of a major transformation which commenced with the four modernizations policy outlined by Deng Xiaoping in 1979 which is expected to be completed by 2020. This initiative was launched after a detailed examination of the strength and weaknesses of the force and a study of contemporary military organizations. The modernization gained impetus after the Chinese saw rapid success of the coalition forces led by the United States in the first Gulf War of 1991. It was further influenced by their study of the Taiwan Straits crisis in 1996; Kosovo War 1998-99, Afghanistan 2001 and Iraq 2003.

6. The improvement of the PLA's military profile has been undertaken in a graduated manner in conjunction with development of infrastructure in Tibet. This has resulted in their ability to deploy substantial military power against India's Northern borders which makes it necessary to assess the PLA's capability along the following parameters:-

- (a) PLA Doctrine- Local wars under conditions of information age
- (b) Informationisation
- (c) Jointness and Synergy
- (d) Organisation of Forces
- (e) Leadership and Training
- (f) Logistics
- (g) Infrastructure in Tibet Autonomous Region (TAR)
- (h) PLA Military Deployment in Tibet
- (i) Effects of Military Capability Enhancement in TAR

PLA Doctrine- Local Wars under Conditions of Information Age

7. **Information Age Wars.** The basic doctrine for war fighting of the PLA has evolved over time to become "winning local wars under conditions of information age". This has been an incremental process that graduated from being a people's war to a people's war under modern conditions, limited war, and finally, a limited war under high technology conditions. In the latest formulation, the requirements for national defence and capacity building of its armed forces were outlined by Chinese Premier, Wen Jiabao in the Government Work Report at the 5th session of the 11th National People's Congress (NPC) in 2012. He stressed on the imperative to enhance the armed forces' capability to accomplish a wide range of military tasks under the absolute leadership of the Communist Party of China (CPC). "The most important thing is to win local wars under the conditions of the information age," said Wen, referring to the armed forces doctrine. Two aspects of the statement are important, 'local,' and, 'information age,' indicating an expanse of the conflict and employment of modern tools of war with a focus on technology and weapon systems. Precision and effectiveness is

gradually replacing mass which was the PLA's strength in the past. Jointness, synergy and informationisation are the new guidelines of the PLA that have to be achieved by 2020.

8. **Local Wars.** "Local," in Chinese terms, needs to be understood in opposition to "total" war, involving the entire country. This could include war with a single adversary across his entire land and/or sea frontiers. Thus, "local," in the Indian context cannot be construed as war restricted to a small front, and could well be envisaged to be fought on multi-fronts, including support operations from Pakistan.

9. **War Zone Concept (WZC).** Local wars are to be conducted within the paradigm of a War Zone Concept (WZC). The Military Regions (MRs) will be nominated as War Zones during active periods. One or two MRs could be combined to fight integrated operations across the frontline. Thus, on India's northern borders, the Lanzhou, Chengdu and the Yunnan MRs could possibly be combined into a single war zone under one commander nominated by the Central Military Commission (CMC). This will enable effective coordination of operations across different regions while at the same time facilitating what are known as Trans-Regional Support Operations (TRSO) which can draw upon support from other MRs.

10. **Active Defence.** Within the WZC the PLA's model of active defence does not envisage retrograde operations i.e. trading space for time. Instead, active defence connotes an "active strategic counter attack on the exterior lines," on the borders, the coastal regions, in air and space as well as on the enemy's, "operational base," and, "source of war". Any action by the enemy which adversely affects their national interest would justify a response by a counter-attack. This would still be construed by China to be part of their active defence strategy. Therefore, pre-emption forms an intrinsic component of active defence.

11. **Offensive Content.** The main component of the PLA doctrine is offensive orientation. This envisages offensive operations against an adversary in a war zone by synergizing military resources from maximum possible MRs .

Informationisation

12. **General.** Over the years, informationisation has emerged as the core factor in capability enhancement of the PLA. The informationisation trajectory of the PLA has gone beyond the conceptual and doctrinal levels, to the fielding and testing of new systems during training, and deployment under diverse conditions in the multiple spheres of combat like, fire power, mobility, protection and logistics support. Efforts for integration of reconnaissance, surveillance and fire control are also an ongoing process. This would provide a network-generated efficiency for speedy deployment of their combat echelons including the Second Artillery force.

13. **System of Systems.** The overall aim of informationisation strategy is to create a grand "Tixi zuozhan nengli," or, "system of systems." This process has reached the grass root level. The PLA claims that computerised C2 systems with navigation, communication and

display capabilities are mature enough for operations to be provided down to the patrol level. Quite apparently, the PLA's informationisation strategy is well under way to create a networked force, conventional as well as nuclear, which can operate in multiple mediums on land, aerospace and sea.

14. **Smart Ammunition.** Smart ammunition like Terminal Sensing Ammunition (TSA), developed for the top-attack of armour with multiple sub-projectiles that can be fired or launched by cannons, long-range missiles or airborne weapons have already been inducted in service.

15. **Cyber Security.** Defensive as well as offensive measures instituted to ensure the security of the information structure from cyber-attacks, have been put in place. The use of the cyber medium as tool for propaganda as also for signalling its capabilities are evidenced by a number of recent cyber-attacks across the globe, all of which are traceable to China. In a future operational scenario, the PLA could well take on a cyber-offensive conjoined with military operations to undermine the critical national and military information infrastructure of their adversary.

Jointness and Synergy

16. **Balanced Armed Forces.** From the initial stage of dominance by the army, the Chinese military is now emerging as a more balanced force. This is reflected in the 2012 White Paper, which for the first time distinguishes between the PLA Army (PLAA), People's Liberation Army Air Force (PLAAF) and the PLAN (People's Liberation Army Navy). Under the rubric of jointness and synergy, the PLAAF and PLAN have emerged as distinct services, even though the traditional dominance of the Army continues. In the forthcoming November 2012, 18th People's Congress, commanders of the other two services are likely to be given key positions in the leadership hierarchy.

17. **Aerospace.** The aerospace medium is assuming increasing importance in China's military doctrine. Keeping this in view, there is an emphasis on deterrence, power projection and quick reaction rather than on application of mass.

18. **Integration of Second Artillery Force.** At the strategic level a synergy is developing between the Second Artillery for operations in conjunction with PLAAF and PLAN. The integration is designed to cover gaps and weaknesses through an exceptional coverage both in terms of offensive and defensive capabilities.

19. **Joint Operations.** In the operational sphere, the concept of Integrated Joint Operations (IJO) entails a vertical integration within a service, and lateral synergy amongst all services including the Second Artillery Force. An overarching C4I2SR architecture provides the backbone for integration. The reorganisation of the PLA into Military Regions (MR), Military Area Commands (MAC), Military Districts (MD) and a concerted focus on WZC, contributes towards jointness and synergy approach.

Space and Counter Space

20. **General.** China has recognized the overwhelming influence of the space medium for warfare on land, sea and air. The space and counter-space domain is an important component of Chinese military capacity-building. This is evidenced through heavy investments made in this area. There are upto 90-100 satellites operational as of date. The concept for war in space is evolving so as to develop capacities in space blockade, space-orbit warfare and space defence. The space and counter-space programmes are linked to informationisation as well as jointness, given the redundancy and additional capacity that it would provide in expanding situational awareness at multiple levels.

21. **Contribution to Informationisation.** The focus of space capability in the military domain is a contribution to informationisation. China has deployed the Baidou Navigation Satellite System providing initial positioning, navigation and timing with a dual use purpose, which today covers whole of South Asia. There are 10 satellites in place at present and a full-fledged Baidou 2 system is planned to be ready by 2020. This will provide a substantial degree of autonomy to the PLA in conducting precision operations and targeting independent of GPS; the American navigation system used by other armed forces the world over. However, alternate links with the GPS have also been maintained. An optical fibre based C4I2SR supports informationisation, thereby ensuring redundancy.

22. **Counter-Space Capability.** China is concomitantly developing a counter-space capability first demonstrated by an anti-satellite test in January 2007. This capability is said to comprise of an anti-satellite programme for hard and soft kills, and is part of an overarching architecture that will ensure the survivability of the PLA's system of systems, while neutralizing that of an opponent.

Organisation of Forces

23. **PLA Reorganisation and RRFs.** In a possible war waged on land in India's northern frontiers, the PLA, PLAAF and Second Artillery will be the primary combat components. The PLA is in a constant state of evolution paced with operational requirements. Hence, it is possible that the traditional division-sized force may be converted into Modular Combined Arms Brigades. This is currently in an experimentation phase and is based on the principle of mobility, flexibility with high lethality. The PLA has also set up a Rapid Reaction Force (RRF) with Rapid Reaction Units (RRU) for speedy deployment which would enhance its flexibility in operations.

24. **Army Aviation.** Army aviation elements are an important component of the land forces. The Military Area Commands (MAC) are now being allocated Aviation Brigades now instead of the Aviation Regiments as was the practice earlier.

25. **Air Borne Forces.** Air borne forces are rapidly expanding to compose a "flight group army"- "a combined arms force comprising of artillery, aviation force, guided- missile

force, reconnaissance force, anti-chemical force, engineering force, electronic countermeasure (ECM) force, communication force etc., which can be air dropped for special tasks". Li Fengbiao, the commander of the PLA airborne troops unit was reported in the PLA Daily to state, "the so-called 'flight group army' is like a group army moved up in the air," equipped with command vehicles, paratrooper assault vehicles and paratrooper combat vehicles. This concept is reflected in PLAAF doctrine of enhancing its capacity to airlift a division, air drop a brigade and heli-lift approximately two battalions.

26. **PLAAF - Offensive Precision Strike Force.** The PLAAF is transforming itself from being a defensive 1950's era force, to an offensive precision-strike air force with greater range and lethality in accordance with the WZC doctrine. It is graduating from being a force deployed for point air defence to one capable of ensuring air superiority and air dominance. The newly envisaged PLAAF missions are dominance in aerospace, information, electromagnetic and computer superiority. PLAAF is likely to take the initiative by striking an enemy's air-bases, ballistic missiles sites and war ships. The fighter/bomber attacks could be launched to ensure air superiority over the war zone while AWACS and AEW&C would provide C4ISR support for these missions. To achieve these objectives there is considerable emphasis on training. Today PLAAF pilots reportedly carry out 122 hours of training annually, though these figures would require verification. The enhancement of its combat potential is through creation of flight bases and training centres, as well as conducting joint training exercises with foreign Air Forces like those of Pakistan and Turkey.

27. **Second Artillery.** The Second Artillery unit comprises ballistic, cruise and battlefield missiles which have been integrated through a dedicated C4ISR network. It holds conventional and nuclear missiles, including tactical nukes. These missiles are road-deployable and secure in underground silos or in the hillsides dugouts in Tibet. The Second Artillery could be expected to use tactical ballistic and cruise missiles for precision strikes on C2 centres, radars and surface to air missile sites. Integration of the Second Artillery with PLAAF would enable the Chinese war zone commander to employ assets of this force to overcome weaknesses such as constraints of fighter aircraft operations arising from the high altitude of the Tibetan plateau.

Leadership and Training

28. **Leadership.** Leadership, training and development are also areas of 'work in progress' with the introduction of special leadership development programmes like the "Strategic Project for Talented Individuals". Significantly, future leaders are being trained for joint operations and innovation. Higher levels of literacy and education in China are reflected in the PLA leadership, which demonstrates good professional standards comparable with other armies of the World. The PLA's performance in UN operations recently is a reflection of the increase in their level of competence as well as confidence levels of their military leadership.

29. **Training.** Training is conducted in a structured manner based on grounding in military theory, strategy, operational art and tactics, practiced under modern informationised conditions. Special battle schools have been formed to impart training with an emphasis on

simulation. Chinese military exercises held in 2010 and 2011 were exclusively based on joint and integrated operations, force projections on land, sea and air, counter terrorist operations, informationised and multi-tiered strikes.

Logistics

30. **Unified Logistics.** The Unified Logistics System is integrated to 'sustain war', including mobile warfare at the strategic and tactical levels. This helps facilitate power projection, integrates resources for fire power, and provides efficient maintenance for Rapid Reaction Forces (RRFs). Joint Logistics Support System (JLS) also ensures integration with the civilian infrastructure, the use of multi-mode transport system apart from catering to forward stocking and maintenance of adequate logistic reserves. This system functions under the General Logistics Department (GLD) in three tiers; at the levels of Corps, Group Army and Military District.

31. **Logistics Nodes.** Logistics nodes and sub-nodes have been created in forward areas to ensure adequate support of troops at various levels.

32. **Mobilization Exercises.** The mobilization and sustenance of a logistics support system over extended distances was practiced and demonstrated during Chinese multi-front exercises of 2009 and 2010 like "Airborne Movement-2009" (Kongjiang Jidong-2009), "Stride-2009" (Kuayue-2009) as well as "Mission Action 2010".

Infrastructure in Tibet Autonomous Region (TAR)

33. **General.** China's infrastructure development plan in TAR is laid out in a "Western Development Campaign Policy" strategy. "Go West," forms a significant feature of the 12th Five Year Plan (2011 – 2015) along with creation of "South Asia Land Route." Three southern land axes assume significance in this regard. First is the Karakoram Highway through Pakistan Occupied Kashmir (POK) extending to Gwadar in Balochistan; second axis lies in the East, for connecting Yunnan with Kyaukpyu in Myanmar and the third one is Qinghai Tibet axis which is being extended up to the Nepal border. (*See map at the end of the paper*)

34. **QTR.** The Qinghai-Tibet Railway (QTR) which traverses a distance of 1142 kms from Golmud to Lhasa has been operational since July 2006. The Chinese propose to extend the QTR to the border in Shigaze. A railway network is also planned to be extended to Dromo near Nathu La. There are also plans to extend the Shigaze line to the Nepal border and further to Chumbi Valley. The Lhasa – Nyingchi railway extension project is slated to commence in 2013 and is also expected to be completed within the 12th Plan period. At the same time feasibility studies on proposed rail links between Lhasa - Chengdu and Kunming have been undertaken. The overall aim is to link Tibet with the Chinese national rail network by 2020.

35. **Road Infrastructure.** The main highways in Tibet include Qinghai-Tibet, built over a length of 2122-km, which was operational before construction of QTR and carried over 80

percent of goods to TAR. The Sichuan-Tibet highway links Chengdu to Lhasa over a distance of 2413 kms. This is the lateral to South west China, an offshoot of the same is the Yunnan Tibet highway, which links Xiaguan in Yunnan to Mangkam in Tibet, a distance of 315 km. The Xinjiang Tibet Highway is 1179 kms long and is considered the highest in the World. It connects Yecheng in Xining to Ngari. This axis would enable a switching of forces between Xinjiang and Tibet.

36. At the end of the 11th Plan in 2010, China had renovated 80 percent of the state highways and built black-top roads to 54 counties, taking the total constructed road mileage to 58,000 kilometers in the TAR. In 12th Plan, it is proposed to increase this road network to 70,000 kms. The road infrastructure in TAR has a combined capacity of 1, 15,000 metric tonnes, facilitating easy and swift movement of troops, war-like material and equipment.

37. Tactical roads or tracks emanate from the West-East road alignments to connect to passes on the watershed of the Indo-Tibet Border. All the major passes of military significance – eleven in Ladakh-Western Tibet, five in Uttar Pradesh-Central Tibet and 15 in Arunachal Pradesh-East Tibet – are connected by such roads. In addition, border laterals of low classification are aligned between 10 to 20 km south of the subsidiary axes for military purposes in the Garr-Nagri, Xigaze and Tsona Dzong-Nyingchi sectors.

38. **Oil and Gas Pipeline.** With the simultaneous completion of the railway and road infrastructure, the PRC is building and linking the Qinghai oil and gas field with Lhasa through a gas/oil pipe line as part of their 12th Plan.

39. **CAINONET.** China's Advanced Info-Optical Network (CAINONET) project aims at connecting this area with the mainland through an extensive optical fibre cable network. In addition, 58 Very Small Aperture Terminal (VSAT) satellite stations are part of the robust command and control structure in Tibet. Broadband connectivity and secure means of communications between successive higher HQs, including Lanzhou and Chengdu Military Region, have been developed.

40. **Airfields.** The Tibetan plateau has five functional airfields in Gonggar, Linzhi, Bangda, Hoping and Ngari Gar Gunsa. The Gonggar and Bamda airports have recently been upgraded. The expansion of the Gonggar, Linzhi, Bangda, Hoping and Ngari Gar Gunsa airports had also been proposed in the 12th Plan. 10 airfields in TAR are currently under construction specifically for UAVs and helicopter operations.

41. **Operational Airfield Infrastructure.** There exists extensive airfield infrastructure with 30 airfields within 1200 kms of the Indian aerospace. Although there are no blast pens, unconfirmed reports indicate that some of these airfields may have shelters built inside the mountains. 17 of these airfields can deploy military aircrafts, while 13 of them can be rapidly converted for this purpose in short time. At present, nine airfields are operational in TAR and three are operating on a permanent basis. It is worth noting that aircrafts which take off from airfields in China's Xinjiang province, can reach over the Indian town of Bareilly without a

requirement to refuel. Even the Yunnan sector airfields are within 1000 kms of India's vital areas.

42. **Nyingchi Golden Tourist Complex.** As part of new developments in border areas, China is building a "golden" tourist complex in the Nyingchi prefecture which is close to India. The Guangdong province in the south of China is earmarked to invest 400 million Yuan (\$63.5 million) for this purpose at the behest the central government in Beijing. An additional investment of two billion Yuan (\$317 million) is expected to flow into Nyingchi from different enterprises once it develops as a tourist destination. These developments will provide direct access to the PLA based near the Indian border and moreover serve to provide scope for surreptitious moves and mobilization of forces.

43. **Water Hegemony.** China's policy of using water as a strategic asset emanates from a perennial deficit of this critical resource in the mainland. The dominant status that it enjoys from being an upper riparian state controlling Tibet, the "water tower of Asia", accords special significance to the use of this asset by the Chinese. This geographic advantage can be exploited through numerous plans for diverting major trans-border rivers like the Indus and Brahmaputra, and building dams on the Sutlej and Brahmaputra. China has remained opaque on its plans and unwilling to share hydrological data with the lower riparian states on regular basis. The disasters of 2000 and 2005 owing to sudden floods in the Sutlej arising from the release of waters from Parchu in Tibet, is a portent of the problems that may arise in the future.

44. **Operational effect of Infrastructure.** In operational terms, China is building a railhead close to the LAC. There also exists a subsidiary road axis to support each tactical front in Tibet. Of the 31 major passes, 28 have motorable roads and the remaining three are under construction. In the Central Sector, 23 passes barring four are connected by all-weather roads to the hinterland. Development of infrastructure in Tibet provides the PLA adequate capacity to support the existing level of military presence, as well as cater for additional forces up to five GAs. While such an infrastructure does provide the Chinese with adequate logistic flexibility, it would remain vulnerable to air interdictions, since all additional resources necessitate transportation from the hinterland.

PLA Military Deployment in TAR

45. **General.** The military responsibility for TAR is divided between Chengdu and Lanzhou Military Regions. Command and control is simplified by placing the entire area opposite the Central and Northern sectors under the Ali Military District; and the rest under the Tibet Military District.

46. **Chengdu Military Region.** This MR comprises the 13 and 14 Group Armies (GA). Both the GAs have clearly defined roles for offensive and defensive operations. The 13 GA, in addition, has been designated as Rapid Reaction Force (RRF). It has motorized infantry and a light group, which suggests both a defensive and offensive orientation with high degree of mobility. The organizational structure, however, indicates a bias towards a largely defensive

role. The 13 GA has not yet adopted a new organization of brigade size battle groups, primarily on account of complex terrain conditions. The 14 GA comprising two infantry divisions appear to have specialized in mountain and jungle operations.

47. The Tibet military district forming part of the Chengdu Military Region comprises nearly 40,000 troops. The QTR has reduced the travelling time for troops from Golmud to Lhasa from approximately 72 hours to 16 hours. A large number of military camps have also reportedly come up in the region.

48. **Lanzhou Military Region.** The Lanzhou Military Region which is responsible for Western Tibet consists of the 47 and 21 GA with the latter being designated as the offensive mobile force. The Motorized Infantry Division of this GA had conducted fire assault exercises recently, using computer networked C2 platforms, right down to battalion levels. The units used UAVs to provide target acquisition and damage assessment. The 47 GA is organized on the basis of a new combined modular-brigade structure. In the Xinjiang MD, border patrols use digitally networked remote sensing, satellite navigation and wireless transmission. Interestingly, the 139 Mechanized Infantry Brigade of the 21 GA have experimented with desert warfare.

49. **PLAAF.** The most significant capability accretion in TAR has been focussed on the PLAAF. The PLAAF's likely main objective would be to prevent the IAF from interfering in the PLA's ground campaign. With 27 military airstrips in Tibet, the PLAAF ability to operate stands considerably enhanced. SU-30 MKK and SU-27 UBK fighter-bombers have also been practicing landings in Tibet as well as deployment during winter months. PLAAF deployment opposite the Northern borders includes an estimated 13 Air divisions with three in Lanzhou and two in Chengdu and Kunming Military regions. This implies that almost 1300 fighters could be deployed opposite the Sino-Indian frontier.

50. The PLAAF has modified its J-10 fighter aircraft to operate in the high altitudes of Tibet which had severely restricted their performances earlier. New improvements and modifications have also been made to operate in sub-zero temperatures. PLAAF has consistently deployed fighter aircraft in TAR for sustained periods through the year even in winters. In TAR, shelters are not hardened, but reports indicate that there are dugouts in the hillsides that could be employed for protection of fighters and keeping them off the runways. Bai Wei, former deputy chief editor of *Aviation World Monthly* told the China state controlled publication, *Global Times* recently, "operations on the plateau are a routine for the air force". Frequent exercises including heli-drop have also been reported. By operating in tandem with fighters from Yunnan, the adverse effects of high altitude terrain on load carriage could be negated. In Lanzhou MR, the PLAAF can carry out operations from airfields at a height of 600m to 1300m and operating distance of 250 to 1300 kms from the Indian hinterland; providing their aircrafts with an ability to be airborne with maximum payload.

51. **Second Artillery.** The Second Artillery has upgraded nuclear and ballistic missiles deployments in Tibet to target India. Road deployable missiles are held in underground silos. In addition, DF-21MRBMs have now moved opposite the Indian frontier. They are further

strengthening deterrent capabilities by replacing liquid-fuelled CSS-3 IRBMs with upgraded road mobile CSS-5 missile systems.

52. The DF-21 (single warhead of 200-300 kilo-tons yield), can engage targets up to a distance of 2,150 kilometers. According to an assessment, 58 launch pads and command and control facilities spread over 2,000 sq km, have been prepared for this weapon system in the northern parts of Qinghai province on the Tibetan plateau.

53. **C4I2SR.** The PLA is expanding the C4I2SR infrastructure in Tibet with a vast network composed of 58 VSAT satellite stations and fibre-optics in all 55 counties of TAR that provide for secure communications and broadband connectivity. This is supported by redundancy through satellite based communication and navigation systems, thereby, enabling fielding of full range of battlefield command systems.

54. **Military Billets and Operational Nodes.** Large complexes with billets for personnel, warehouses along with loading ramps and traffic loops as well as hard standings have been constructed in various areas around Hetian, Garr, Xigaze, Lhasa, Nagqu, Nyingchi and Chayu. They outwardly appear to be civilian installations but definitely have dual-use role in support of PLA. It is also likely that such complexes would have dedicated facilities for military C2, surveillance and helicopter operations.

55. **Camps and Modern Barracks.** The Chinese have constructed an extensive network of new camps, barracks and hyperbaric chambers with store houses at selective sites. The PLA has also built Hyperbaric Chambers in these camps to provide capabilities for a contingency-based force application through rapid acclimatization of troops inducted from lower altitudes.

56. **Logistics.** The main logistics centre in TAR is situated in Nagqu Township, capable of handling 2.23 million tonnes of cargo by 2015, can be enhanced subsequently to 3.1 million tonnes by 2020. This is located approximately 300 km northeast of Lhasa and has been developed at a cost of approximately Yuan 1.5 billion (US \$ 220 million). The oil and gas pipelines are being constructed to have disbursement terminals located on the main QTR, road highways and for airfields. This will facilitate support for logistics in any military campaign south of the Kunlun Mountains. There are also plans for the development of civilian and military infrastructure to sustain up to ten Group Armies in TAR by 2021.

57. **Annual Maintenance.** A general assessment based on information from the public domain reveals that the PLA General Logistics Department is capable of transporting 5-6 million tonnes annually into Tibet. This would meet the entire requirements of the civil sector including tonnage required for development projects and industrialisation, apart from logistic support for a major military campaign.

58. **Mobilisation Potential.** The rail and road infrastructure enables mobilization of up to 30 regiments of PLA from Golmud to Lhasa. According to latest assessments, mobilisation of 12 divisions in 30 days will now be possible.

59. **Training and Op-Rehearsals.** Extensive training and operational rehearsals have been conducted in TAR lately. In November 2011, the troops rehearsed capturing mountain passes at heights beyond 5,000 meters with the help of armoured vehicles and airborne forces in a live military exercise. The high point of exercise was a fire assault, employing a vertically-launched joint attack rocket and missile (JARM) system, firing 280 km range laser and other precision attack systems equipped with terminal guidance sensors. The special operation detachment outflanked the enemy and raided the CP, while army aviation troops and AA missiles provided cover. Exercises also included troops parachuting from a helicopter hovering at 500 M, as well as rehearsals for large-scale application of Special Forces in high altitude terrain.

60. The PLA further conducted a live-ammunition exercise in March 2012, during which it executed night surgical strikes employing the multi-role J-10 fighters, using conventional and laser-guided bombs. This exercise is a critical pointer to PLA's heightened preparedness along the Indian border, especially as it seeks to prepare for joint and integrated operations-incorporating air power, upgraded air defence and ground forces including armour and artillery units across the TAR.

61. Recent events involving large numbers of operational and training activity by the PLA in TAR illustrate high level of preparedness for any exigency. This includes PLA war games, PLAAF deployment during the winter on the plateau, improved habitat for soldiers in high altitude areas, mobilization and training exercises.

Impact of Military Capability Enhancement in TAR

62. **Operational Capability Accretion.** The effects of military capability enhancement in TAR are likely to be manifold - the PLA can now deploy large forces in short periods of time on India's Northern borders. This way it can greatly enhance the element of surprise and provide flexibility to the political leadership in exercising the options for war. Combined with fast track modernization and emphasis on Jointness and Informationisation there is considerable capacity accretion contributing towards strategic surprise and deception. This has also led to enabling the PLA with capacity for full spectrum operations on land and air despite the challenge of high altitude constraints on the PLAAF.

63. **Mobilization for War.** The PLA can mobilize a Rapid Reaction Division into Lhasa within a period of 24-36 hours through a combination of rail and road movements. It should also be possible for the Chinese to move over 30 Divisions in one campaigning season to TAR. However as to whether, out of a total of 54 divisions on their ORBAT, would they ever risk deploying more than 50 percent of their force in Tibet, is open to debate, particularly when high altitudes and mountainous terrains are unsuitable for employing mechanized forces.

64. **Employment of Second Artillery Force.** The deployment of the Second Artillery in nuclear and conventional modes in Tibet along with PLAAF denotes integrated operations to help overcome the problem of high altitude operations for combat aircrafts. The preliminary attacks may possibly be launched by the Second Artillery as preemptive strikes. Large numbers of Short Range Ballistic Missile (SRBM) deployed opposite Taiwan numbering approximately 900- 1000 indicate the intent of saturating the battlefield in an outbreak of hostilities. The Taiwan scenario could be replicated on the Sino-Indian boundary. With 50 to 60 SRBMs production per year, there is likely to be a high degree of superiority established by the use of this system which has a reported accuracy of 50 to 60 meters. Using SRBMs in deterring counter-strikes after a territorial grab of claimed areas such as Tawang is also probable. Long range missiles could also be used to reduce the advantage of strategic depth of the IAF as well, rendering the Indian heartland of Uttar Pradesh and Bihar, vulnerable.

65. **PLA Operational Challenges in Tibet.** Despite the advantages, operational challenges for the PLA on India's northern borders are considerable. The Lanzhou and Chengdu military regions have different terrain and climate thereby warranting variations in training, equipment and operational employment of forces. Yunnan has a hot and humid terrain while the Tibetan plateau is open and lacks cover. There are problems in operations in high altitude and rarified atmosphere which cannot be completely overcome by the use of technology. The performance of the men and material would remain uncertain. India would do well to convert these weaknesses to its advantage.

PART 2 - ASSESSING CHINA'S INTENT

General

66. Mapping the intent of an adversary as opaque as the PLA presents several challenges. Thus, an attempt has been made in examining some pertinent aspects so as to assess the PLA's intent in terms of developments on the Indo- China border, internal developments in Tibet and China, and China's India policy.

- (a) Political Objectives of a Continental War
- (b) Budgeting for Military Capability.
- (c) Extension of Chinese Claims to Arunachal Pradesh
- (d) China's Shifting Discourse on the Boundary Issue
- (e) Border Stand Offs
- (f) China Pakistan Axis & Jammu and Kashmir
- (g) Internal Rumblings in Tibet
- (h) China's Restive Minorities
- (i) Triggers Arising from Nationalism and Internal Dissent
- (j) China's Win-Win Trade Arrangement

Political objectives – Continental War

67. **Key Political Objectives.** The key political objectives of the PRC in starting a war could be the settlement of boundary issue by force e.g. annexation of Tawang or other parts of Arunachal Pradesh so as to badly damage India's efforts to maintain a status of an emerging power at a time when the internal political situation may be unfavorable in China. This could be carried out in a short campaign.

68. **War as an Option.** China has taken a number of measures to achieve above aims without going to war with India, in the classical mould of "acme of skills," as identified by Sun Tzu. Their national strategy has been to consolidate political power on the margins and a comprehensive military capability as well as build bilateral alliances in geographic locations away from the Mainland, like in the Indian Ocean Region (IOR). Were these to fail in coercing India into submission, the Chinese may conveniently create suitable internal and external environment for launching a "local" war. The aim would obviously be to achieve the political objectives in the shortest possible time. Towards this end, a favourable geopolitical and regional environment would have to be shaped by them duly supported by expanded calls for national resurgence through real or engineered revolts on the periphery, particularly in Tibet. The assistance of China's natural allies like Pakistan in the ensuing operations for buttressing its aggression is a foregone conclusion.

69. **Window of Opportunity.** China may possibly perceive the window of opportunity for success to be restricted to the current decade, at best, before the Indian armed forces reinforce and attain better capacity capability themselves to counter the PLA. Any triggers within this time span could thus possibly be used by them to their advantage.

Budgeting for Defence

70. China's national security objectives and PLA modernizations are being supported by huge budgets annually approximating USD 100 -150 billion, over the past half a decade. The government's declared defence budget for 2012 itself is USD 106 billion. A comparison thus, regarding resources available to both India and China, clearly indicates that the ever widening gap between the two countries in so far as the availability of funds for the respective Armed Forces is concerned.

71. China is the world's second largest economy and expected to surpass the United States in a few decades. According to estimates provided by the IMF, in 2011 China's Nominal and PPP GDP was USD 7,298,147, and 11,299,967 respectively, while India's Nominal and PPP GDP stood at 1,676,143 and 4,457,784 respectively. China therefore, has a substantial advantage over India which would continue for the foreseeable future. China's declared defence budget for 2012 is 2.74 times that of India. When compared to China's military numbers at 2285000 and India's military at 1325000, the PLA enjoys a per capita advantage of 1.6 times over that of India. Further, it is generally estimated that China's actual budget should

be approximately 60 percent over and above the declared one. Therefore, its 2012 defence budget can be estimated to be USD 160 billion. The advantage, thus, accruing to China would be 4.3 times in terms of defence budget when compared to that of India.

Territorial and Boundary Dispute

72. The statement of the Indian Ministry of Defence placed in Parliament on 3 September 2012 notes; "Indian territory under occupation by China in Jammu & Kashmir since 1962 is approximately 38,000 sq. kms. In addition to this, under the so called China-Pakistan "Boundary Agreement" of 1963, Pakistan illegally ceded 5,180 sq. kms of Indian territory in Pakistan Occupied Kashmir to China. In the eastern sector, China illegally claims approximately 90,000 sq. km. of Indian territory in the State of Arunachal Pradesh". In addition, there are a number of areas on the Line of Actual Control (LAC) which are disputed to include in the Western sector (Ladakh/Himachal) Pangong Tso, Trig Heights, Samar Lungpa, Demchok, Chushul, Depsang Bulge and Chumar. In the Central Sector (Uttarakhand) these include Kauril, Shipki & Barahoti and in the Eastern Sector (Arunachal Pradesh) Dibang Valley (Fish Tails), Longju, Asaphila, Namka Chu, Samdurong Chu, Chantze, Dichu/Damai. *[A Map showing territorial and boundary dispute giving general locations is appended at the end of the document.]* It should be noted that the hierarchy of the disputed areas has recently acquired a nuance to include Mutually Agreed Disputed Areas, Areas of Differing LAC Perception and Emerging Disputed Areas. These issues could be skillfully structured by the Chinese in an effort to keep the LAC issue alive and gain leverage in future negotiations through the constant expansion of territorial claims.

Extension of Chinese Claims to Arunachal Pradesh

73. China, over the years, has expanded its claims over Arunachal Pradesh. The shift in the dynamics started with completion of the QTR on 1 July 2006. Quite coincidentally on 13 November 2006, then Chinese Ambassador to India, Sun Yuxi had claimed in an interview to an Indian news channel, "in our position, the whole of the state of Arunachal Pradesh is Chinese territory. And Tawang is only one of the places in it. We are claiming all of that. That is our position." The statement came a week ahead of President Hu Jintao's visit to India slotted for November 20-23. It was for the first time that such an assertion had been made. Ever since the Chinese increasingly speak of Arunachal Pradesh as South Tibet or Zang Nan and have been objecting to visits by Indian leaders to the state including those of the Prime Minister Dr. Man Mohan Singh, the Defence Minister Mr. AK Antony or even His Holiness the Dalai Lama. These assertions could provide the political justification for a future conflict in Arunachal Pradesh.

China's Shifting Discourse on the Boundary Issue

74. India's response in terms of confidence building measures and Agreements on Maintaining Peace and Tranquility as well as mechanisms for management of standoff established recently have not contributed anything towards resolution of the boundary issue. China, on the other hand has expanded claims to Arunachal Pradesh and constricted the

boundary dispute from over 4000 kms to less than 2000 kms. The variation in length of the border between China and India had emerged for the first time in a report in *China Daily* in August 2009 with reference to the 13th Special Representative Talks on the Boundary issue. They are now only measuring the border in the Middle Sector (554 km), Sikkim (198 km) and Eastern Sector (Arunachal Pradesh 1226 km), bringing it to a total length of only 1978 km. It is significant that they have started discounting the entire sector of the border buttressing Jammu and Kashmir. Thus, from 4056 kms the length of the border has been reduced to less than half to 1978 kms. India obviously has rejected this projection.

Border Standoffs

75. To emphasise non-recognition of the LAC, China has been carrying out intrusions which are termed as transgressions by both the sides. There were 228 such cases reported in 2010, 213 cases in 2011, and 64 in 2012 until April. The Chinese, on the other hand, claim that India has indulged in more transgressions. Some analysts dismiss these transgressions as “pinpricks to keep India on the tenterhooks”. When taken in totality, however these denote a trend which could have serious consequences in future as some of these transgressions are deliberate acts of provocation. For instance the Ministry of Defence in a statement to Parliament pointed out that on 13 July 2011, a PLA patrol had attempted to cross a 200 feet wall of loose stones constructed 250 meters on Indian side of LAC in the Yangtse area of Tawang, which was thwarted. The stone wall was partially damaged by PLA but has since been reconstructed. In accordance with the established mechanism, a strong protest was lodged with the Chinese in a Flag Meeting after this incident. There have been similar provocations in the Finger area of North Sikkim, some of which have gone uncontested. The aim of such intrusions could certainly be to sustain claims on Indian territory.

76. **China-Bhutan Boundary Differences.** In an attempt to resolve the boundary issue with Bhutan, China has reportedly proposed an exchange of territory on the Western border adjacent to the Chumbi Valley for a larger area in the Central sector. This offer requires a careful scrutiny as it could provide China an advantage of securing the shoulders of above vital enclave, the tip of which touches India's Siliguri Corridor in West Bengal.

China-Pakistan Axis & Jammu and Kashmir

77. **All-weather Friendship.** China's strategic axis with Pakistan is a well-established fact. In the nuclear and military sphere, the relative balance of forces underlines the advantage that both countries enjoy by way of such an alliance. This relationship is premised on several factors including the sharing of nuclear know-how (grand-fathering of two nuclear reactors), missile (Babur cruise) and defence technology to co-production of fighter aircraft (JF 17), Advance Trainer Aircraft (K-8 Karakoram), tanks (Al Khalid), AWACS and frigates. The strategic Karakoram highway provides a land link between the two countries and also sustains the Chinese intent of having a footprint in Jammu and Kashmir.

78. **Gilgit- Baltistan.** The Shaksgham enclave was coerced out of a complacent Pakistani regime under Ayub Khan in 1963 by China. In 2010, China has shown its visible presence in Gilgit-Baltistan of POK, ostensibly on grounds of flood relief and undertaking hydro-power projects which will certainly impact India's military posture in Ladakh.

79. The Chinese continue to question India's sovereignty over Jammu and Kashmir at the diplomatic level. This was marked by issuing stapled visas to residents of the State and also to some military commanders for a short period of time. This practice however, has since been discontinued, but persists in case of Arunachal Pradesh.

80. India's response to these aggressive moves has been measured. In a statement in the Parliament in September 2011, the Defence Minister remarked that "On the road network in Tibet, the Government is aware that China is undertaking infrastructure projects in Pakistan occupied Kashmir (PoK). We have conveyed our concerns to China about and asked them to cease such activities."

Internal Rumblings in Tibet

81. Beijing has been very suspicious of India's role in Tibet and continues to feel insecure about India's alleged efforts in fostering of the Tibetan cause. The presence of the Tibetan government in exile in Dharamshala, activities of the Tibetan Youth Congress and spate of unrest in Tibet (including Tibetan pockets in Qinghai and Sichuan provinces) in 2011 were also attributed by Chinese to Indian support.

China's Restive Minorities

82. While China has improved relations with Taiwan and assimilated Hong Kong under the "one country, two systems," their failure to absorb Tibetan and Uighur minority in the larger *Han* socio-political fabric is a festering issue. While much of this is a consequence of their misguided policies, China does not hesitate in apportioning blame for this on its neighbours. China's extreme paranoia in recent years can be highlighted by the fact that it even singled out Pakistan for not doing enough to contain Uighur rebels operating from its tribal areas. Similarly, the Tibetan aspect is likely to be a contentious issue between India and China, even though New Delhi has been very cautious of Chinese sensitivity regarding this aspect.

Triggers emanating from Nationalism and Internal Dissent

83. Growing nationalism and concern for sovereignty within Chinese masses is being encouraged and is being used by Beijing's elite, including the PLA to foster an agenda on selected issues like the South China Sea issue or the boundary with India. There is a possibility that the internal problems in China arising from socio economic turbulence, break down in law and order and respect for the state, are other triggers which could be deliberately externalized in the future so as to divert the attention of the masses.

China's Win-Win Trade Arrangement

84. Despite the prevailing tensions, China has emerged as India's largest trading partner in terms of goods and bilateral trade at \$70 billion in 2011 with a target of \$100 billion by 2015. Chinese official stance is trade first and disputes later and they have advised Pakistan to follow the same policy. There, however, exists a well reasoned view that such a stance appears to be only a shield behind which the overall strategic discourse on the territorial and boundary dispute is being transformed slowly in China's favour.

PART 3 - A PERSPECTIVE ON INDIA'S MILITARY POSTURE

General

85. An assessment has been made based on information available in the open domain to include:-

- (a) Infrastructure Profile on Northern Borders
- (b) Planned Operational Accretions
- (c) Readiness and Modernisation Challenges

Infrastructure Profile on Northern Borders

86. **General.** India's preparedness to face the challenge of China's build up on the Northern borders remains less than adequate. To say the least, the road infrastructure in Arunachal Pradesh is primitive. In an interview with former Chief of the Army Staff, General J.J. Singh, has said that only 25 percent of inhabitations of Arunachal Pradesh are connected by all-weather roads and the with an overall road density in the state approximates 22 km per 100 sq km. Less than 60 percent of villages have been electrified and literacy levels are second lowest in the country.

87. **Operational Infrastructure.** In terms of operational road infrastructure, India's forward infantry divisions facing the Chinese, in a quite a few cases, are dependent on a one way fair weather road axes which limits sustained build-up and support during active hostilities, as also during normal peace time. There are landslides during the monsoon season, a feature that can cause disruption as well as temporary blockades during active operations. The telecommunication infrastructure for supporting operations is also underdeveloped.

88. **Infrastructure Development Plan and Progress.** An empowered committee under India's Defence Secretary, Shashikant Sharma has been formulated to focus on the capability development plan along the Northern borders. An outlay of Rs 26,155 crore has been proposed and targeted for completion by 2020-2021. Another project focusing on the Eastern

theatre is planned with an outlay of Rs 9,243 crore to be completed by 2016-2017. These projects include building 558 roads at a cost of Rs. 500 billion along the border. The plan for 27,986 kms of road infrastructure is likely to be completed by 2030 in a phased manner. In the first phase, 277 road projects are earmarked to be completed at a cost of Rs 248.86 billion with a length of 13,100 kms. What is required, however, is a push to ensure implementation of these plans in time. Our record in ensuring completion of such projects is disgraceful, tardy and unacceptable, to say the least

89. Of the 73 roads identified as strategic border roads, the Border Roads Organisation (BRO) has been entrusted with 61 roads of total length of 3394 km in J&K, Himachal Pradesh, Uttarakhand, Sikkim and Arunachal Pradesh. Thus far, 15 roads of length 563.87 Km have only been completed and work is under progress on other 44 roads. Out of total 3394 Km length, 2562 Km formation and 1794 Km surfacing works have been completed. The rate of completion is thus only 17 percent which is not at all satisfactory.

90. 27 ITBP priority roads along Indo-China border totaling 804 Km are also under construction. Out of these, construction work on only one road has been completed and the work on 23 roads continues to be a work in progress. Suffice to say that the entire programme would need to be speeded up with time-bound targets.

91. **Railways.** Construction of new railway lines such as Sivok-Rangpo (44.39 Km) and Murkongselek-Pasighat (30.617 Km), and gauge conversion of Rangiya-Murkongselek (511.88 Km) have been taken up. These, when completed, will bring the railhead to approximately a week's turnaround from the forward troops, which is still grossly inadequate.

92. **Airfields and ALGs.** There are 31 airfields, 9 in the Western and 22 in the Eastern sectors. Modernisation of airfield infrastructure (MAFI) in the East included apart from Kalaikunda and Panagarh, Pasighat, Along, Mechuka (the three are ALGs) and Chabua, Mohanbari, Jorhat, Guwahati, Bagdogra, Hashimara and Tezpur. Most importantly ALGs like Pasighat, Mechuka, Walong, Tuting, Ziro and Vijaynagar are being upgraded and developed. Daulat Beg Oldi, Fukche and Nyama in Eastern Ladakh are now operational. An inaugural flight of AN-32 landed at Vijaynagar ALG in 2011. "The reactivated airstrip at Vijayanagar will enable us to land medium-lift transport aircraft like AN-32 and C-130J Hercules in addition to helicopters. The renovated airfield will be of strategic value to improve logistics and develop the region," noted the Air Chief Marshal, Norman Browne.

93. A network-centric capability, implying inter-connectivity between aircraft, airfields, radars, air-defence artillery and operations centres to pass data and pictures seamlessly is also being upgraded through the AFNET (air force network). It involves the installation and commissioning of equipment including work services, along with integration and calibration of the equipment with Automated Air Traffic Management (ATM) at Air Traffic Control (ATC). The IAF is also procuring Surveillance Radar Elements (SRE), Precision Approach Radars (PAR), UHF Ground-to-Air Radio sets and Commutated Automatic Direction Finder

(CADF) systems to upgrade the equipment at its airfields. This is, however, due to be completed by 2015.

94. **Central Sector.** It is pertinent to note that opposite our Central Sector, Chinese have connected all but four of the 19 passes in Tibetan plateau with all-weather roads to the hinterland. In sharp contrast, on the Indian side however, only Mana Pass stands connected by a jeepable track to the base.

95. **Telecommunications.** An alternate exclusive dedicated OFC based communication network for Defence Services for release of spectrum is being executed by Bharat Sanchar Nigam Ltd. (BSNL). The Cabinet Committee on Infrastructure (CCI) has given a financial approval of Rs.9175.16 crore (Rs.1077.16 crores for Air Force and Rs.8098.00 crores for Army and Navy) for the laying of an alternate communication network for the defence services. This project is set for completion by December 2012 and has an important linkage with improving our defensive posture on Sino-Indian border

96. **Tunnels in Forward Areas.** Recent reports indicate that 18 tunnels are planned along the borders with Pakistan and China as storage chambers and also to facilitate mobility. Preliminary work on seven tunnels is underway while plans for eleven tunnels in Jammu & Kashmir, Sikkim and Arunachal Pradesh are on the drawing boards.

Planned Operational Accretions

97. **Force Accretion.** The accretion of forces in the northern borders is in progress. Two new mountain infantry divisions are being raised. These will supplement the defensive layout in terms of numbers. The accretion in terms of firepower and logistics remains a work in progress. It should be understood that the force levels in Arunachal Pradesh could pose a challenge both, for the defender as well as for the attacker, as operations are segregated into distinct valleys indicating requirement of separate troops for defence of each sector.

98. **Mountain Offensive Corps.** The plans for raising a Mountain offensive Corps is under active consideration. This is a positive development.

99. **Army Aviation.** Army Aviation bases in Assam are being upgraded.

100. **IAF and Ground Air Defence.** Sukhoi-30MKI fighters are already based in Tezpur and Chabua. Six squadrons of surface to air Akash missiles ordered by the Air Force, and two regiments by the Army are being deployed in the East to strengthen air defence capability.

Readiness and Modernization

101. **Readiness Requirements.** Indian armed forces are traditionally required to be prepared for a 90 days full spectrum war. Under the current regional environment, wherein a Two-Front contingency is envisaged, a conventional superiority ratio of 1:1.5 vis a vis Pakistan, and selective parity with what the PLA can field on the Northern borders, would be required.

102. **Maintaining Readiness Levels by India.** Recent reports indicate extensive ongoing efforts to build up essential force levels, critical infra-structure and overcoming the hollowness in systems, equipment and ordnance. In terms of procurement, the Army is making up 50 percent shortages in planned acquisitions during the 11th Five-Year Plan (2007 to 2012). The shortfall in procurement of 155 mm caliber artillery guns is planned to be made by setting up an indigenous gun manufacturing plant. This is expected to roll out the first guns by 2013. Air defence acquisitions are also being speeded up to induct new procurements. The planned mountain strike corps, as and when approved, would require heavy-lift helicopters, gunships, howitzers and modern communication systems. Procurement plan for these must be put in place on priority.

103. The Indian Air Force combat squadron force levels at 75 to 80 percent of authorization are planned to be made up in the 12th Five Year Plan. There is, however, likely to be a continued holding of large number of MiG 21 squadrons till 2015. The attack helicopter fleet is also being upgraded. Ground based air defence resources are being made up to induct Akash missile squadrons. Air transport assets are, however, adequate with induction of C 130 J which will enhance rapid reaction capability.

104. **Key Areas Requiring Impetus.** The main areas requiring impetus are the readiness of the state of newly raised as well as existing defensive formations on the Northern borders, and raising of a mountain strike corps. Accretions in combat support artillery in terms of availability of guns as well as ammunition are also necessary. Making up shortfalls in ammunition for Smerch multi-barrel rocket launcher systems and Bi-Modular Charge (BMC) systems for the upgraded 130-mm artillery guns will enhance its range. Expansion and modernization of Air Defence artillery is also a priority. Close Support Aviation will have to be equipped with modern light, utility and attack helicopters. Capability to operate in a NBC environment should be built up to include reconnaissance, decontamination and personnel kits.

105. **C4I2 SR.** Progress in implementation of C4I2SR, Tac C3 I and Battlefield Management System is also being expedited. High-speed encrypted communication links between army formations need to be laid in tandem.

106. **Reconnaissance and Surveillance.** There is a need for evolving a comprehensive plan for reconnaissance and surveillance integrating satellites, air and UAV assets, which will provide substantial advantage on the Tibetan plateau given the absence of adequate vegetation cover in their area. Induction of High Altitude Low Endurance (HALE) UAVs must be given a priority in the 12th Five Year Plan.

107. **Doctrine.** In terms of doctrine, operationalisation of a joint doctrine for the Northern borders is necessary along with preparation for combined operations. An effort to designate military threats and identify probable areas of unified operations is necessary. Laying out a Defence Communication Network will provide physical infrastructure for jointness and synergy. Similarly doctrinal clarity in terms of logistics infrastructure strategy to build up for defensive and limited offensive operations is essential.

PART IV - MAJOR AREAS WARRANTING FOCUS

General

108. A review of the characteristics of India-China relative military posture helps project that capacity-building on the northern borders has become a *sine qua non* for India. This will serve to re-establish dissuasive-deterrence, since the Chinese have considerably expanded their state of operational readiness. India will be able to meet this challenge by focusing on areas as outlined in succeeding paragraphs.

109. **Military Strategy for Northern Borders.** A viable continental military strategy for Northern borders with China and Pakistan should dictate priority in development of infrastructure and force accretions within a specified time frame.

110. **Defence Budget.** The Long Term Integrated Perspective Plan projections by the armed forces need to be fully met over the next two plans. Not only the funds, also the flexibility to optimally utilize them has to be provided to the Services by suitably modifying the systems.

111. **Intelligence Capacity Building and Coordination.** Intelligence capacity should be enhanced with reference to:-

- (a) Expansion of human intelligence grid on the northern borders to take into account the joint capabilities of all intelligence agencies.
- (b) Creation of satellite, electronic and communication intelligence capability under the Defence Intelligence Agency to cover the Tibetan Plateau, Kashghar-Hotan areas of Xinjiang, Gilgit Baltistan and Yunnan- Myanmar regions.
- (c) Induction of tactical intelligence resources through deployment of UAVs, aerial and ground surveillance means when required.
- (d) Coordination of intelligence resources and tasking should lead to holistic assessment of all round threat to national security.

112. **Coordination of Infrastructure Development.** The development of infrastructure by different agencies such as the Border Roads, ITBP etc. should conform to operational priorities. For the rapid development of infrastructure the following could be considered:-

(a) Upgrade the level of decision making from Empowered Committee of Secretaries to an Empowered Group of Ministers (EGOM) to facilitate speedy clearances including those from forest and environment.

(b) Rapid and coordinated development of infrastructure in Ladakh, Uttarakhand, Sikkim and Arunachal Pradesh based on priority to critical operational areas.

(c) Priority should be given to an all-weather road from Leh to Srinagar and to alternate axes to Sikkim. Additionally, construction of two axes for each divisional sector on the Northern borders will be operationally necessary in the long term. In addition, priority should be assigned to the Kameng sector in Arunachal Pradesh for completion of infrastructure in next two to three seasons by concentrating assets while taking up less priority sectors in subsequent time frame. Additional Border Roads Task Forces may have to be raised for this purpose.

Defence Strategy, Readiness and Modernisation

113. **Joint Doctrine for Northern Borders.** There is a need for a joint doctrine for meeting the specific challenges on the northern borders which are unique. This should envisage creating conventional symmetry in qualitative, quantitative and technological terms through the effective utilization of forces through jointness and synergy, and gradual upgradation to network centricity. The employment of land and aerospace forces as well as conventional missiles has to be an integral part of this doctrine. This will also dictate priority for defence assets acquisitions based on envisaged threat pattern.

114. **Priority for Strategic Reconnaissance and Surveillance.** Priority should be accorded to strategic reconnaissance and surveillance of the Tibetan plateau. An integrated reconnaissance and surveillance grid based on satellites, high altitude manned and unmanned aircraft and human intelligence would provide an advantage of early detection and enable preemption of a military build-up.

115. **Employment of Air Power.** Employment of air power is likely to provide India a considerable advantage vis-à-vis the PLA and PLAAF. The IAF would be able to exploit the present superiority of heavy fighter assets such as Su 30 MKI and MMRCA (when inducted) to considerable effect in TAR.

116. **Rapid Induction of Missiles.** The rapid induction of Agni 4 and 5 ballistic missiles will enhance strategic deterrence vis-à-vis PLA, through an enabling response capability. This

capability would effectively counter the vulnerability of the populated centres of Central India. The enhanced depth strike capabilities can be supplemented by conventional, cruise missiles and backed by improved ISR capacities. The employment of missiles should ultimately include the BrahMos, Prahaar and Nirbhaya, even though the latter two are in the trial stage.

117. **Raising and Organisation of Mountain Strike Corps.** A Mountain Strike Corps can equally match Chinese designs to attain manpower superiority.

118. **Serviceability and Scaling.** The serviceability of existing weapon systems and provision of ammunition to the prescribed scales of war fighting should be progressed. In immediate terms, the strategy of "Repair and Prepare," with priority for enhancing operational readiness on the northern borders would have to be undertaken to ensure mission reliability of existing equipment. Enhancing night operations capability in the mountains through a concerted plan and allotment of additional resources should form part of an ongoing process.

119. **Fast Track Procurement.** Action for fast track procurement of deficiencies related to weapons and ammunition required for the northern borders, through government to government contracts, requires urgent attention.

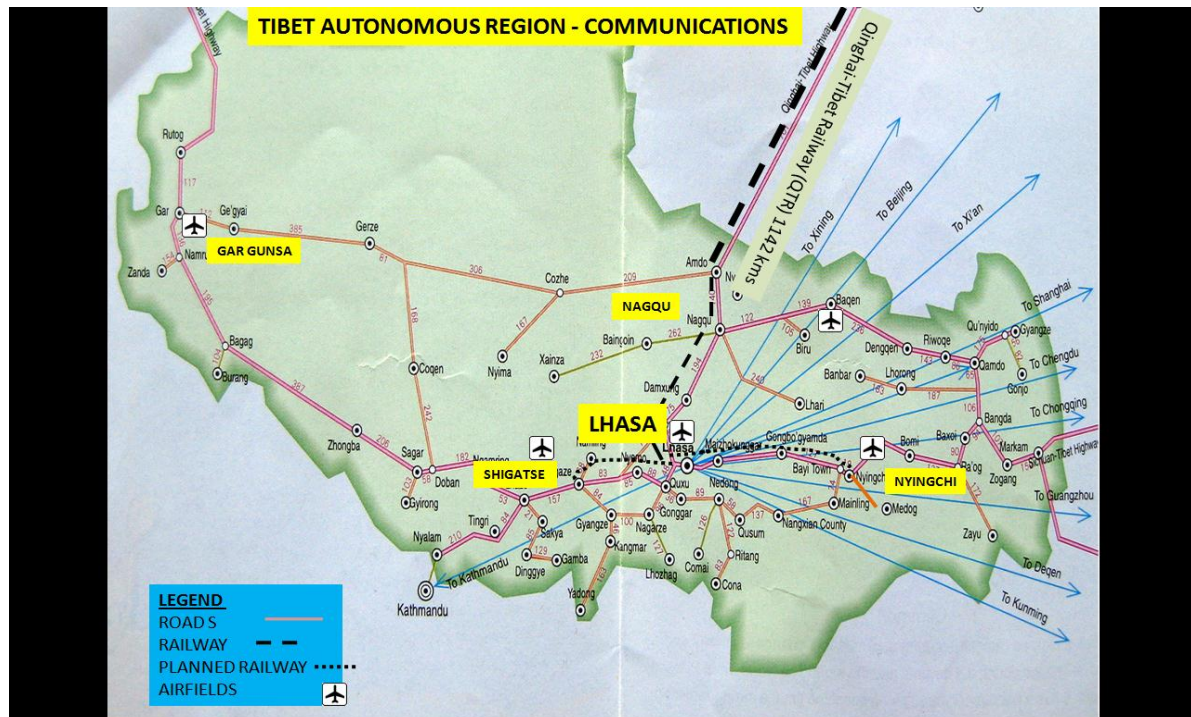
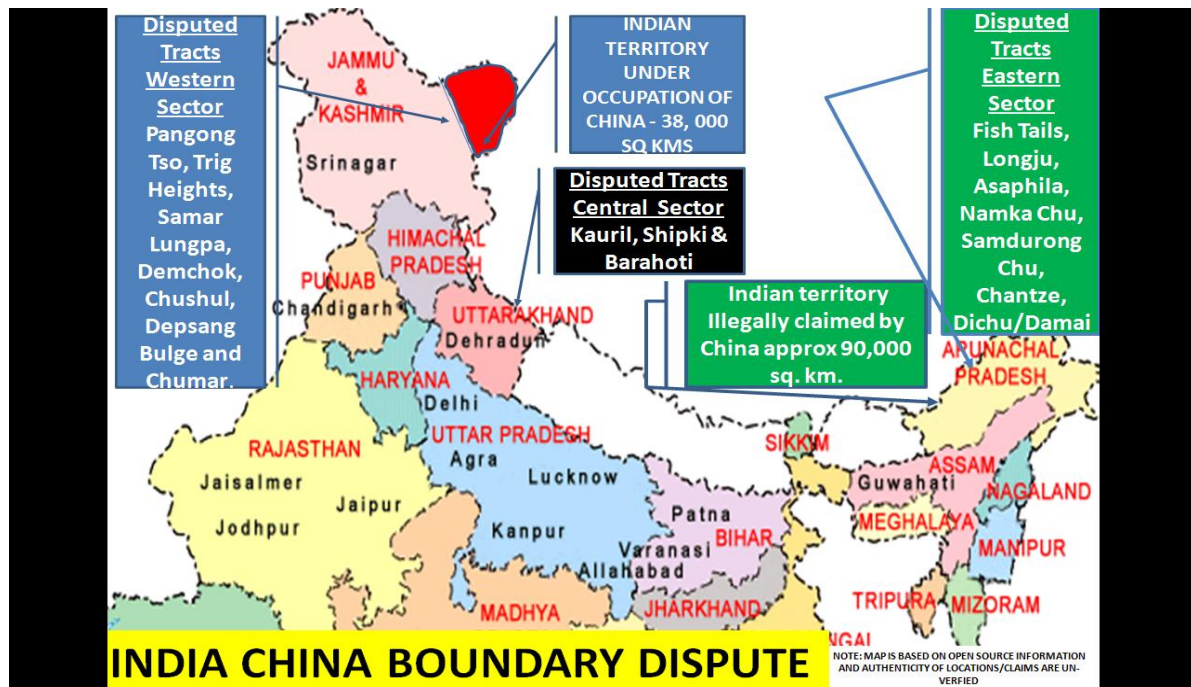
120. **Acquisitions for Capacity Building and Modernisation.** Speedy acquisitions are an essential especially in procuring artillery guns, light helicopters, air defence guns and missiles. All the equipment should be inducted as in a complete package with night fighting, fire control, ammunition, simulators and training facilities.

121. **Command and Control Infrastructure.** The rapid implementation of the Defence Communication Network in a time bound manner should be considered. Developing an enhanced and integrated C4I2SR architecture from the strategic to the battlefield levels is also essential. This would also provide much better levels of transparency and real time coordination between Northern, Western, Central and Eastern Commands of the Army. In the long term, developing an integrated theatre-based command structure providing for 'jointness and integration' under a single commander, must also be considered.

122. **Cyber security Infrastructure and Capability.** The cyber medium will be increasingly in the forefront in facing the brunt of a potential PLA offensive, many days and even weeks before a physical attack. Thus, security of cyber infrastructure especially on the northern borders should be given as much priority as other combat measures to ensure survivability and flexibility to launch counter-offensives.

123. **Logistics Nodes.** The challenge of building heavy logistics in the mountains can be overcome by creating logistics nodes at various levels in advance. Stocking of various items particularly ammunition, fuel and supplies including medical stores should be carried out during peace time.

124. **China Study Expertise.** An expansion of the domain of China studies centres to include language, foreign policy, military and security matters on the country are a necessary imperative.



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The Vivekananda International Foundation is an independent non-partisan institution that conducts research and analysis on domestic and international issues, and offers a platform for dialogue and conflict resolution. Some of India's leading practitioners from the fields of security, military, diplomacy, government, academia and media fields have come together to generate ideas and stimulate action on national security issues.

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