

# DEFENCE AND SECURITY ALERT

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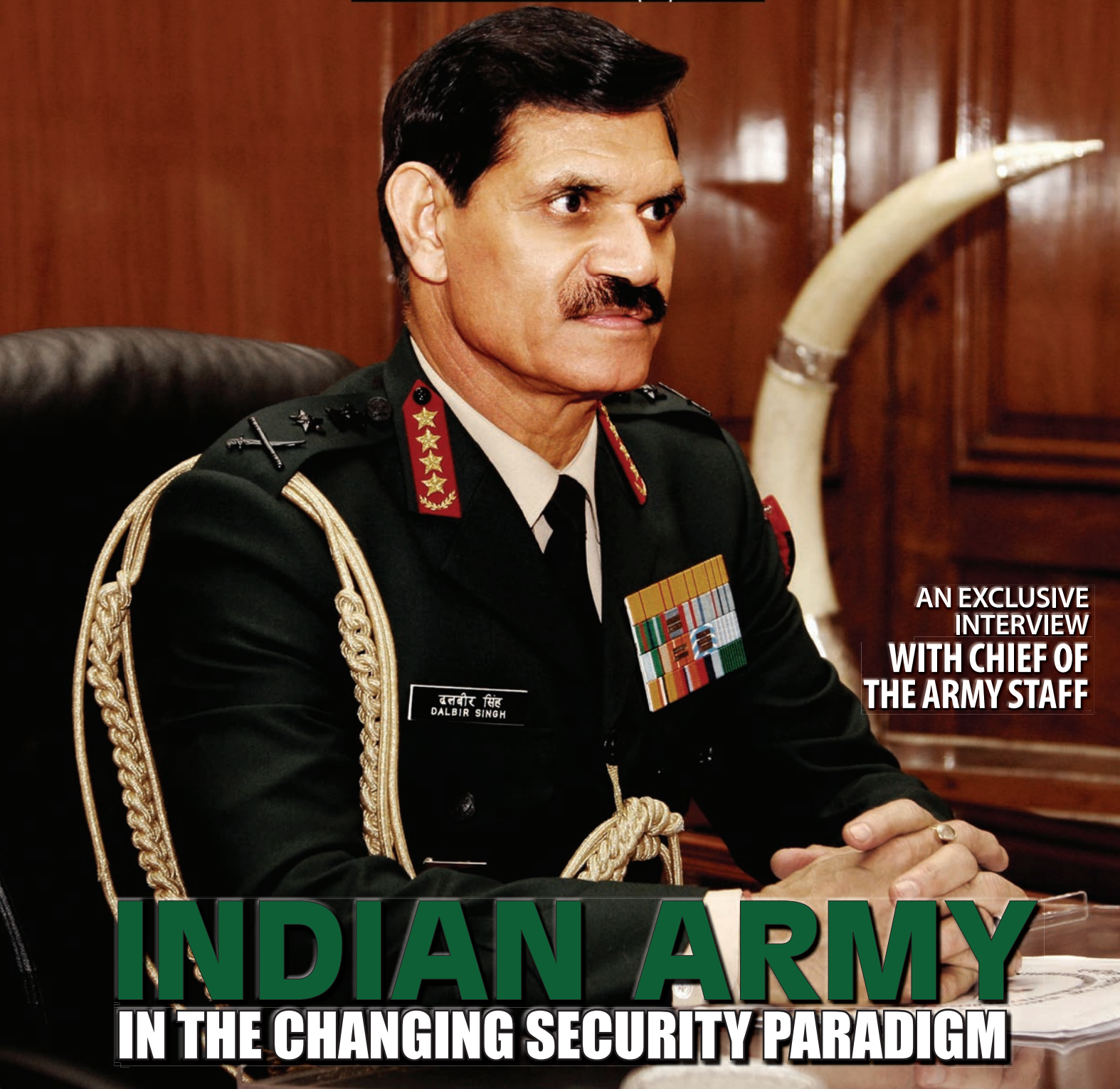
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# DSA™

THE ONLY INDIAN DEFENCE AND SECURITY MAGAZINE  
AVAILABLE ON INDIAN AIR FORCE (IAF) INTRANET



AN EXCLUSIVE  
INTERVIEW  
WITH CHIEF OF  
THE ARMY STAFF

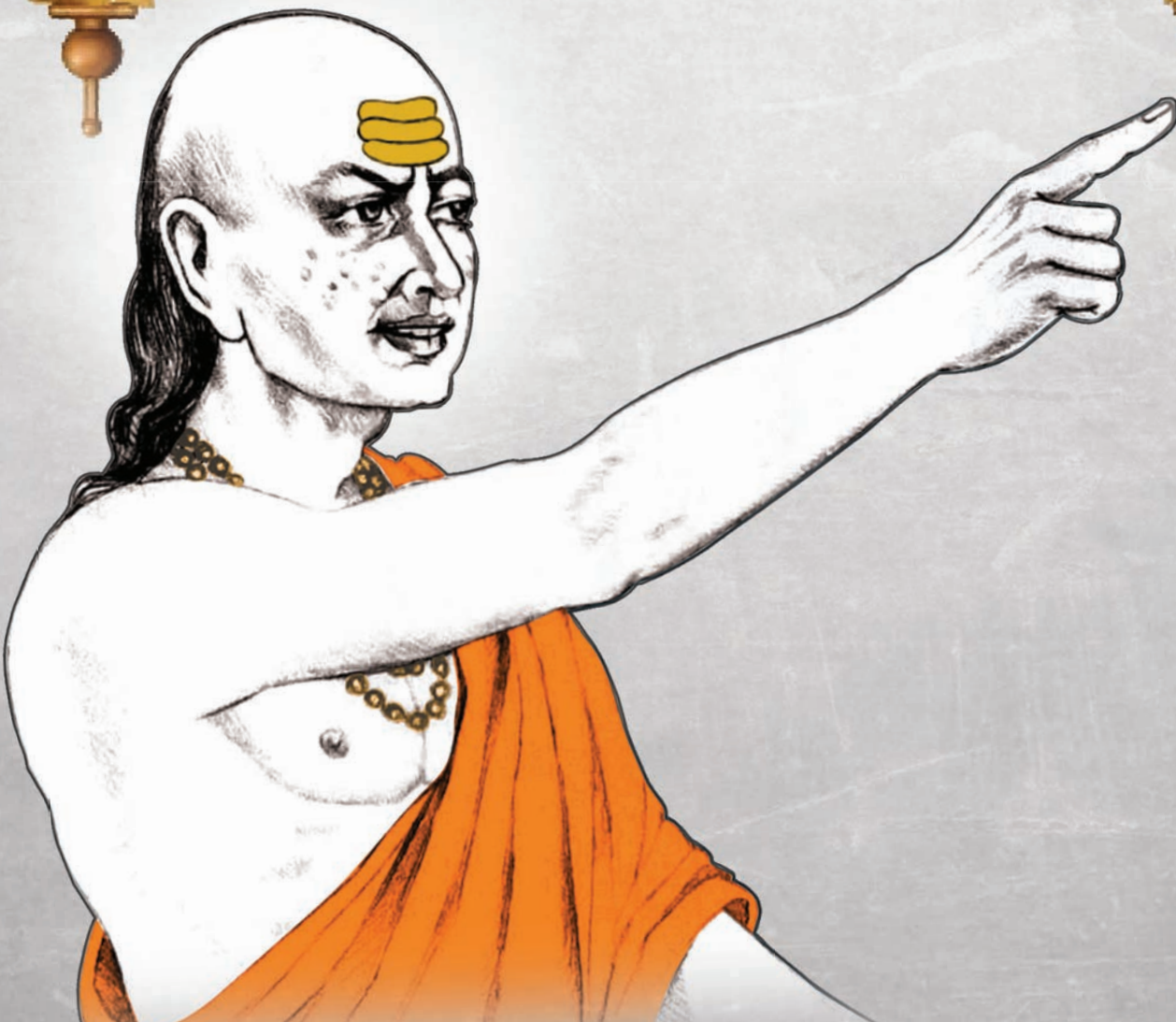
# INDIAN ARMY IN THE CHANGING SECURITY PARADIGM

# DSA™

## MISSION

*The power of a King lies in his mighty arms ...  
Security of the citizens at peacetime is very important  
because State is the only saviour of the men and women  
who get affected only because of the negligence of the State.*

**— Chanakya**





# DSA is as much yours, as it is ours!

**T**he single, undeniable, underlined and enduring, message from the 2014 General Election is that of change. All other factors can be debated endlessly. But the fact that the country wanted change, in enormous numbers, is incontestable. That message of change must now be taken to its logical end, in every direction and department of government. It is the yearning of the citizenry of India and has been repeated in every state election since the momentous General Election of 2014. So it is only appropriate that the message of change be absorbed by the government and be reflected in its actions and decisions.

One of the most important, for today and the foreseeable future, would be a re-look at the Indian Army. Not a re-look to check its vital role, which is undeniable, or its contribution, which is equally unquestionable. The re-look that is alluded to here is the one based on the message of change. Where the very shape and size of the institution is opened threadbare to see inside for all that is redundant. And to poke around and find the places where the changes can be implemented. For change is essential, especially for the Indian Army in the 21st century.

There is no denying the fact that of all institutions of state it is the Indian Army that consistently scores the highest in approval ratings. Nationwide there is a respect for the Army that other institutions and departments of the government can only dream about and sigh wistfully. That high standing doesn't take away from the fact that the basic structures and systems of the Army are essentially antiquated, 19th or 20th century by-products. It also doesn't take away from the fact that the Army was created for and designed around contingencies that don't exist for the modern 21st century republic that India aspires to become.

So taking the message of change in 2014 to its logical direction, Army Day 2015 is as good a day as any can be in order to introspect deeply about the military force that we want for now and the future. 2015 is a good time to look at the Army of today, of 2050 and beyond. For any analyses of the service based on the message of change can only point in one direction – structures and systems of the Army need to be overhauled in order to make it a modern more efficient fighting machine. After all the goal of every concerned citizen is for the Army to be a lean and mean fighting machine, even if it means deploying one of the most overused cliches.

The vital prelude to these new structures and systems and resultant efficiencies, is essentially an in-depth analysis of what is that India is fighting against currently, will do so in the medium term and finally the long-term threats to the country. Within the projections of now, tomorrow and the rest of the days after, lie the challenges that confront the country in the foreseeable future. In simple language it is called a threat perception study. One in which all possible threats and solutions, must be laid out in plain view. Perspective Planning at Army HQs has surely done this study a number of times. Declassified versions of the study must be placed in the public domain so as to generate a national debate, a churning of ideas and a better idea of what constitutes threats to India's security!

The country needs to analyse and understand what all constitute the threats of the future. There is every reason to understand the types of conflicts that the country is likely to get involved with. If India wants to be regarded as a future great power there is reason to believe desi boots may well have to be landed in Mogadishu flying the tricolour, for example. Sans the UN blue flag there aren't many takers in India for an operation in another continent. Hence the 'if' and hence the need to do a threat projection study. It would help the country understand as to what constitutes the emerging threats and what kind of force is required to tackle them. The study will also suggest as to which threats are declining, because not all threats have a perpetuity. And for every future security challenge the country will remain dependent on its greatest institution, the Indian Army. Just as it has in the past, for some things can never change.

**Manvendra Singh**



## Alert For India?

**T**he Taliban and their Pakistani masters are behaving with India like the Kauravas did with Pandavas in the ancient times. We all know the fate of the Kauravas and it now appears – after the massacre of the innocent school children in Peshawar on 16th December – that dastardly act could yet prove to be the last straw that will break the Pakistani camel's obdurate back.

In spite of all warnings and alerts by the world community, Pakistan has never tried to control the global terrorism and anti-Indian activities of the many Sunni Islamic jihadi outfits operating from within its territory and Pakistan-occupied Kashmir. I think the attack on the Peshawar military school is the direct outcome of the permissive attitude of both the Pakistani military establishment and the political milieu which used Islamic fundamentalism to create constituencies within the many terrorist organisations operating under the umbrella United Jihad Council. That the young Malala Yousafzai should win the Nobel Prize for standing up to defy the jihadi diktat against education of the girl child in Pakistan is a commentary on the depth to which the Pakistani society has descended that such groups can revel in the slaying of the innocents.

There is now no doubt that there exists a nexus between the Pakistan government led by an Ahle Hadith-believing Prime Minister, the Pakistan Army Inter-Services Intelligence (ISI) and the various terrorist outfits be they the Al Qaeda, the Taliban, the Lashkar-e-Taiba or the rabidly anti-Shia Lashkar-e-Jhangvi to name a few. The admission by the Tehrik-e-Taliban Pakistan that it conducted the massacre in Peshawar in retaliation for the Pakistan Army and Air Force Operation Zarb-e-Azb in North Waziristan robbed the Pakistan government of any excuse to accuse India and Afghanistan for the Peshawar massacre Lashkar-e-Taiba chief Hafiz Muhammad Saeed's rantings against India notwithstanding.

Pakistan Prime Minister Nawaz Sharif's assurance that his government would take strong action against the perpetrators was rendered useless with the release from jail two days later of one of the handlers of the Mumbai carnage of 26/11, Zakiur Rehman Lakhvi. Worldwide condemnation forced the Nawaz Sharif government to put him back in jail under a law that allows only three months incarceration. Sufficient proof of his involvement has been handed over to the Pakistan government but threats to public prosecutors and judges have ensured that no action will be taken against Lakhvi.

After the Peshawar massacre Indian defence and security forces and the intelligence agencies have become more vigilant against any similar attack on Indian schools. The role of Indian Army has become more challenging now considering the various threats internally as well as externally. The entire security paradigm has changed in the last one decade. The ultras using the latest technologies to destabilise peace in India are the biggest challenge for the Indian Army which is now well equipped with the latest telecommunication devices and arms and ammunition. The Indian Army has kept the Pakistani game plan at bay and has blunted the many proxy attacks it has conducted over the past two decades which have been characterised by a "no war, no peace" state of affairs. The coordination of the Indian Army with border state governments and the paramilitary forces has stymied Pakistani plans to destroy Indian unity and territorial integrity. I am confident that our Army will play the role of a catalyst to safeguard India's security and national interests in this changing security paradigm.

I am happy to inform you that veteran journalist and leading strategic analyst Nitin A Gokhale has joined team **DSA** as Executive Editor with this edition. We are also introducing a new feature 'Know the Chief.' As this edition is Indian Army Special we are featuring the Indian Army Chief General Dalbir Singh.

Team **DSA** commemorates the Indian Army Day and salutes each officer and every jawan of the Indian Army by dedicating this edition to the Indian Army. I wish you all a very Happy New Year 2015 and a joyous Republic Day!

*Jai Hind!*

  
**Pawan Agrawal**

# Team **DSA** welcomes our new Executive Editor

**T**eam **DSA** is happy to announce that one of South Asia's leading strategic analysts, Nitin A Gokhale has joined us as the magazine's Executive Editor starting January 2015.

A veteran journalist with 31 years experience across web, print and broadcast mediums, he keeps himself busy with writing, lecturing and making documentaries.

An authoritative defence analyst, media trainer and a multi-media reporter who started his career in 1983, he has the rare distinction of living and reporting from India's North-eastern region for 23 years.

In his distinguished journalism career, he has reported the Kargil War, the Eelam War IV in Sri Lanka for three years and different insurgencies from Kashmir, North-east and Maoist-hit areas and has worked with as diverse media houses as *The Telegraph*, *Sunday*, *Outlook*, *Tehelka* and *NDTV*.

Over the past decade he has specialised in reporting and analysing India-China relations and has extensively travelled in Tibet, Ladakh, Arunachal Pradesh and China.

Author of four books on insurgency, war, military and demography, he regularly teaches and lectures at India's National Defence College, the Army, Navy and Air Force War Colleges, Defence Services Staff College, the Indian Institute of Mass Communication, the Intelligence Bureau's Training School and the College of Defence Management.

A keen student of India's neighbourhood and its strategic space, he has moved on from full-time journalism in December 2014 to pursue his book writing projects, conducting training in media handling and penning columns in print and web. In addition, he has generously taken on the responsibility of being the Executive Editor of **DSA**, a monthly magazine devoted to issues close to his heart since he believes **DSA** is the right platform for focusing on important strategic, defence and internal security issues that confront India.

For the past five years **DSA** has established itself as a mature, responsible and nationalist magazine devoted to generate awareness and debate on important strategic issues. With Nitin Gokhale's addition to our team, we are confident that **DSA** will attain greater heights.



Nitin A Gokhale

We welcome him aboard and wish him all the success for a long-term association with **DSA** magazine. **DSA**

**SPECIAL ISSUE JANUARY 2015**  
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# EXCLUSIVE INTERVIEW

## WITH CHIEF OF THE ARMY STAFF GENERAL DALBIR SINGH

**G**eneral Dalbir Singh PVSM, UYSM, AVSM, VSM, ADC was commissioned into 4/5 GR (FF) in June 1974. He is an alumnus of Sainik School, Chittorgarh and the National Defence Academy. He is the Colonel of 5 GR (FF) and the President of Gorkha Brigade. In an illustrious and distinguished military career spanning four decades, General Dalbir Singh has tenanted many critical Command and Staff and Institutional appointments. He has Commanded 3 Corps and Eastern Command. He has also held the appointment of IG, SFF.

**Defence and Security Alert:** The current security scenario being faced by the country needs deliberate analysis and consequently, IA needs to maintain its focus on certain aspects for maintaining optimum efficiency. What are your KRAs towards this end?

**Chief of the Army Staff:** In the current security scenario, my main KRAs are maintaining high levels of operational preparedness and capability enhancement to meet contemporary and future challenges. This will involve force modernisation, infra development and realistic training.

Our soldiers remain our most valuable asset and improving their quality of life and living conditions is another one of my major thrust areas.

**DSA:** Indian Army initiated a "Transformation process" in May 2010 to transform Indian Army into an agile, lethal, versatile and networked force. What progress has been made in this endeavour?

**COAS:** Transformation is a dynamic and continuous process to optimise the armed forces capabilities and maintain its relevance as a formidable force to meet present and envisaged security challenges. It is a process that shapes the changing nature of military preparedness through review of doctrines and concepts, organisation and structures, new technologies and personnel.

IA had initiated a transformation process which seeks to restructure our organisation, capabilities, equipment, training and mould our military values, traditions and mindsets, besides addressing host of aspects related to the Army's functioning.

Some issues which are progressing in the transformation process are the building up of the components of the Mountain Strike Corps, Mediumisation of Arty and setting up the framework for well networked Digital Army.

**DSA:** Infantry, being the largest arm, needs prioritised modernisation as we see its continued significant role in the times to come. What are we doing in this regard?

**COAS:** Modernisation of the Infantry soldier is being given priority and necessary impetus. It is designed to enhance an individual soldier's capabilities in terms of increasing his weapon lethality and at the same time providing him necessary protection for survivability in the lethal environment. His mobility and connectivity to exploit a network centric system are also planned.

We have moved ahead from concept stage to execution. In the initial phase priority is being accorded to weapon systems and enhancing night vision and battlefield mobility capabilities. In light of the same, adequate impetus is being imparted to the major modernisation domains which are as follows:

● **Lethality.** The procurement of weapons is simultaneously addressing both the modernisation and hollowness factors. The requirement to address the existing critical voids in the environment is being accorded maximum impetus. The procurement process of Close Quarter Battle Carbine, Assault Rifle and Light Machine Gun are in advanced stage.

● **Target Acquisition and Situational Awareness.** Commanders and detachment numbers at various levels in Indian Army need to be effectively night enabled. Due importance is therefore given to equip the weapons with mix of Image Intensifier and Thermal Imaging based night sights. The RFP for procurement of Image Intensifier Sight for Carbine has been issued on 07 November 2014.

● **Body Armour.** The procurement of Ballistic Helmets and Bulletproof Jackets is at an advanced stage wherein both items are at trial stage.

Thus it can be seen that all facets of Modernisation of the Infantry Soldier are being given the highest priority and the necessary impetus.

**DSA:** Indian Army requires modernisation urgently. In nearly every arm of the Army the equipment is either obsolete or obsolescent. "Make in India" even if pursued vigorously will take a few years to fructify. What are the proposals underway presently?

**COAS:** There is a well established procedure to replace Outdated Military Equipment. It is a part of the modernisation of the Armed Forces, which is a continuous process based on threat perception, operational challenges, technological changes and available resources.

Presently, a proposal is under consideration of procuring 100 Wheeled APCs for our UN contingents. These Wheeled APCs are likely to replace the BMPs. The same will improve deployment capabilities of our contingents.

Tangible steps have been taken to fast track processing of key EW (Electronic Warfare) and communication projects. A project for



General Dalbir Singh

procurement of Tactical Communication System (TCS) for the TBA based on a grid communication network is under way.

One of the major modernisation decisions taken is of creating a Digital Army. Three Key areas and Nine pillars for Digital Army are being worked upon based on Digital India plan. Some concrete actions have been taken in that direction and some are in the pipeline. 'Integration' and 'inter-operability' have been made key issues in all SW application development. System and procedures are also being modified as part of 'business process review' as applicable.

A close interaction with Industry is being encouraged wherein requirement of services have been highlighted to the industry. Capability of Industry in different domains has also been requested to optimise our interface. Fast tracking procedures in DPP and DPM are also being planned for better response.

**DSA:** National Security Adviser Ajit Doval has recently said that India should be prepared to fight a two front war. Many experts envision a two and a half front war including internal security threat. What are your views on this and is India equipped and prepared to fight and win a two and half front war?

**COAS:** Manifestation of what is being termed by as a 'two front threat' is dependent on issues that straddle the political, diplomatic and mil domains. Assessment and analysis of present and perspective threats and challenges is a continuous process. IA is undertaking adequate preparation and capability enhancement in terms of training, equipping and force structuring to effectively tackle any emergent situation. The capabilities to fight our adversaries are being built-up progressively. We are in any case quite capable of taking on the internal security threat. When the time comes adequate plans are in place to address a combined conventional as well as internal security threat, if required.

**DSA:** What is your assessment of the spectrum of future conflicts? Is the IA reviewing its trg philosophies to cater for the shift in the security scenario?

**COAS:** In any future conflict situation, the threats in the domains of nuclear, biological, chemical, space and cyber loom large. In subconventional realms, the threat emanating from Asymmetric Warfare by non-state actors will also remain a matter of concern. Indian Army has to remain alive to these emerging threats and train and prep itself to effectively counter these threats. Also create own capabilities to efficiently utilise the potential of NBC, space and cyber domains to ensure victory in future wars.

Review of the training methodology and related infrastructure in the IA is a continuous and ongoing process keeping in view the emerging future security threats in the region. Accordingly, training syllabi in the training institutions of the Indian Army, undergo review from time to time to keep pace with changing threat spectrum and future battlefield scenarios. Scientific application of modern training techniques is continuously enriching our training skills to face these challenges.

**DSA:** Enemies of India both across the borders and within the country have graduated to using modern hi-tech gadgets and equipment, satellite

communications and digital deception devices for anti-national and disruptive activities. What measures are you taking to ensure that our soldiers and officers are better equipped and more lethal?

**COAS:** Force modernisation continues to be one of the key focus areas that affect our capabilities and operational preparedness and as such, the IA has laid out a road map for modernisation and capability development which is part of the Long Term Planning Process. It is important to realise that these projects have long gestation periods. With a modest and evolving indigenous defence sector, we still rely on external sources for our defence needs which cannot be met within the country. Various external and internal factors impinge on the progress of these projects.

Some of the key projects in various stages of processing / completion relate to the upgrading of night fighting capability of the IA, upgrading the existing Armoured Fighting Veh fleet, mediumisation of Arty to 155 mm cal, improvement in the AD equipment, upgradation of communication equipment and networks, acquisition of state-of-the-art missile systems, (both man portable and based on armoured vehicles), introduction of new machine guns and assault rifles for the soldier. These will ensure that the Indian Army soldier will be better equipped, smarter and more lethal.

**DSA:** What is your assessment of the internal and external security challenges, as obtained for the country in the foreseeable future?

**COAS:** The Indian Army is mandated to safeguard National Interests from External Aggression and Internal Subversion. Our borders have become increasingly active over the years. These vast borders passing through some of the most rugged terrains in the world, with large areas being disputed, pose complex External Security challenges. Regional instability as being witnessed in the Af-Pak region has direct bearing on our security situation. On our Northern Front the capability gap remains a cause for concern.

Our internal security challenges are intricately linked to our external threats. In addition, terrorism and the involvement of non-state actors with state sponsorship has brought about a fundamental shift in the conduct of warfighting. They remain one of the biggest threats to an emerging India.

The IA is fully aware of the emerging security scenario. Our capability enhancement efforts are focused towards preparing the IA to effectively meet the contemporary and future challenges.

**DSA:** By virtue of sub-continental size of the country and being surrounded by hostile neighbours, Indian Army has to work in concert with other defence and paramilitary forces, especially the BSF. How seamless is intelligence resource sharing among the forces and how well coordinated and effective are the joint operations?

**COAS:** The Border Guarding Forces such as the BSF are primarily responsible for security of the International Borders during peace time and are designated as the Lead Intelligence agency along that border. However, where the borders are disputed such as along the Line of Control in J&K, the Border Guarding Force (BSF) is

under the operational control of the Army. A functional coordination mechanism exists between the BSF and the local Army units for intelligence sharing and response to border incidents.

**DSA:** New government has announced 49 per cent FDI in defence and is encouraging creation of a Military Industrial Complex with the active participation of private players. How do you view this development and how does it augur for the Indian Army?

**COAS:** Presently there is partial FDI in defence sector with caps on the sectors involved. Most Def Industries are System Integrators than manufacturers. With the increase in FDI in defence sectors, defence Industry can start manufacturing the requirements indigenously which in turn would enhance the availability of equipment and spares and cut down Import Costs. This would augur well for the Indian Army as it would directly affect acquisitions process by increasing fund availability within existing budget and availability of spares in future.

**DSA:** The moral and ethical value system in the Indian Army has been a cause of concern for quite some time. How do you propose to improve and sustain "Internal Health of the Indian Army".

**COAS:** I believe that as an institution, the IA has distinct ethos and values that place the Service before Self. Our Nation first, always and every time has been our guiding principle and is reflected in all our actions. Our glorious history of valour and courage remains a source of inspiration for future generations. The spirit of selfless sacrifice is ingrained in every soldier and he is willing to make the supreme sacrifice for *Naam, Namak aur Nishaan*. Our secular culture, integrity and camaraderie, teamwork and a never say die attitude have helped us win the trust and faith of an entire nation.

Within the army working environment, I have articulated my thrust areas which include the strengthening of our work culture that hinges on professional ethos and upholds our cherished core values of integrity, loyalty, duty, respect, selfless service and honour. The morale of the Army continues to be high and the Army continues to maintain its high state of preparedness. I am sanguine that the ethos and values of all soldiers of the Army will improve further and the Army will continue to maintain its immaculate state of discipline.

**DSA:** Indian Army has been short of officers for a long time and young men and women find other career options more appealing. What is Indian Army doing to make the force attractive and a career of choice for India's bright and talented young people?

**COAS:** Shortage of officers presently exists in the support cadre at the level of Lieutenant Colonel and below. This has primarily impacted manning at unit level. The above has, in-turn, resulted in additional responsibilities being shouldered by officers. While high levels of development readiness and efficiency are being ensured with available officers, there is a need for heightened commissioning of



General Dalbir Singh with Pawan Agrawal, Publisher and CEO of DSA magazine

Short Service Officers in order to make up the deficiency. We are proactively addressing the issue in conjunction with MoD. In this regard, a positive trend has been witnessed in the last few years as overall deficiency has been reduced from 26 per cent in 2010 to 17 per cent in 2014.

**DSA:** On the occasion of the Army Day, what ideas and thoughts will you like to share with the people of India and DSA readers around the world and what is your message for the Men and Women in Olive?

**COAS:** On the occasion of the Army Day 2015, I extend my heartiest felicitations and warm wishes to all ranks of our Army, our veterans, the civilian employees and their families. Today as we celebrate the indomitable spirit and selfless commitment of the Indian Army in service of the Nation, I wish to pay homage to our brave martyrs for their invaluable contribution in upholding the Nation's honour and security. Their supreme sacrifice shall continue to inspire us in performance of our duty.

Time and again we have been called to assist the nation, often in the face of insurmountable odds. We have never let the Nation down and have delivered the desired results always and every time. This has been possible only due to our ethos and values, ingrained in us by our predecessors. As a professional Army, we need to continue improving our combat skills, keep abreast with the rapidly evolving technology and adapt ourselves to handle dynamic situations in trying circumstances. We should also move towards greater synergy with sister services to enhance operational efficiency.

The Army is immensely proud of the contribution of the Veterans, who have played a vital and valiant role in making our Army what it is today. On this occasion, we reiterate our resolve to constantly strive for their betterment. The Army and the Nation stand by our Veterans and Veer Naris with deep gratitude.

Let me once again congratulate each and every one of you for your perseverance against odds and selfless dedication to the Nation. The Army and the Nation are proud of you. Let us rededicate ourselves in service of the Nation whose safety, security and integrity must remain our First priority - 'Always and Every Time'. **DSA**

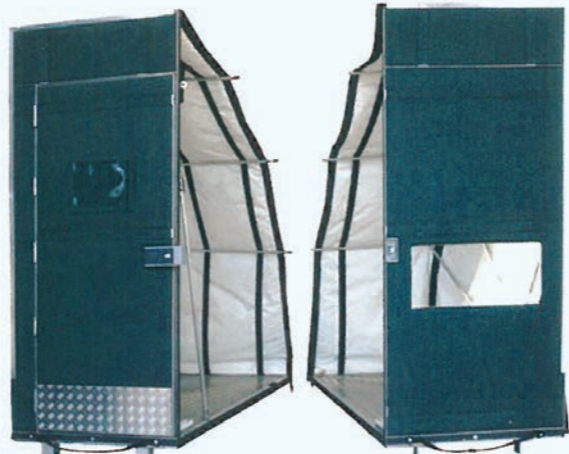
**Thermal Carry Bags**

IN SERVICE: MoD  
 For carrying edibles, medical & vaccine supplies (hot or cold)  
 Highly effective insulating properties  
 Very tough and durable  
 Waterproof and anti-fungal  
 NATO codified



**Thermal Pallet Covers**

IN SERVICE: UK/Iraq/Afghanistan  
 For protecting supplies against cold or hot conditions  
 Very tough and durable  
 Highly effective insulating properties  
 Easy to fit and remove  
 Folds flat for ease of return or storage  
 Waterproof and anti-fungal  
 NATO codified



**Portable Field Cold Store & Personnel Pad**

IN SERVICE: Iraq/Afghanistan  
 For cold storage of edibles or pharma supplies  
 Can be used as freezer or chiller  
 Split and fold down for easy transportation  
 Easy to erect and dismantle  
 Tough and durable  
 Waterproof and anti-fungal  
 NATO codified



**Thermal Tent Lining**

IN SERVICE: Iraq  
 For reducing temperature loss/gain inside tents  
 Increases efficiency of A/C equipment and reduces running and fuel costs  
 NATO codified

**Field Electronics Control Chamber (ECC)**

IN SERVICE: Iraq/Afghanistan  
 Used to maintain a temperature controlled environment for electronics and communications equipment when in the field (increasing reliability)  
 Fold away for easy transportation  
 Easy to erect and dismantle  
 Waterproof and anti-fungal  
 NATO codified

**Portable Fridge/Freezer**

IN SERVICE: Iraq/Afghanistan  
 For cold storage of edibles or pharma supplies  
 Can be used as freezer or chiller  
 Fold away for easy transportation  
 Easy to erect and dismantle  
 Tough and durable  
 Waterproof and anti-fungal  
 NATO codified



**Thermal Vaccine Wallets**  
 IN SERVICE: MoD/NHS  
 For carrying vaccines & medicals away from temperature controlled environments  
 Very tough and durable  
 Highly effective insulating properties  
 Waterproof and anti-fungal  
 NATO codified





# Army Medical Corps

The AMC not only attends to the sick and wounded, but also performs the equally important task of prevention of diseases and practice social hygiene on a large scale. The Corps is organised on the most advanced lines and has well earned the name it deserves. The AMC has its own hospitals that are some of the best equipped and managed in the country.

**T**he Army Medical Corps has a rich heritage and cherished legacy of professionalism, devotion to duty and compassion towards the sick and wounded. It has a well established comprehensive healthcare system and provides modern evidence based medical care with compassion. It has been providing yeoman service to the entire spectrum of its clientele and has always risen to the need of the hour, both during war and peace – whether it is in counter insurgency operations or following natural calamities and major disasters. The dedication to duty, selfless service and outstanding technical skill of its personnel has brought laurels to the Corps and the Army.

**History and Evolution.** The history of Army Medical Corps dates back to middle of Eighteenth century, when medical services were organized for the Presidency Armies of British East India Company. In the year of 1764, Bengal, Bombay and Madras Medical Services were raised. A century later in 1881, "Army Hospital Native Corps" and "Station Hospitals" in place of "Regimental Hospital" for British troops were formed.

The President of India DrRadhakrishnan presented the Regimental colours to Army Medical Corps at Lucknow on 03 Apr of 1966. In the year 1967 AMC Centres North and South amalgamated as AMC Centre Lucknow, along with Officers Training School was also established in the same year and AMC Centre Lucknow was re-designated as AMC Centre and School Lucknow on 09 Aug 1969.

**Role.** In the Armed Forces integration is inherent in its organisation and the administration of medical care is necessarily comprehensive. Role of the AMC ranges from advising commanders at all levels on matters affecting health of troops, promotion of health and prevention of diseases in peace and war, collection, evacuation and treatment of the sick and wounded,

thereby reducing morbidity and mortality, procurement, storage, supply and replenishment of medical stores and equipment, training and development of medical personnel and Medical Research. In addition to its role of providing Combat Medical Support in the operational environment, the AMC provides comprehensive medical care to all ranks and their dependant family members in peace stations.

The AMC not only attends to the sick and wounded, but also performs the equally important task of prevention of diseases and practice social hygiene on a large scale. The Corps is organised on the most advanced lines and has well earned the name it deserves. The AMC has its own hospitals that are some of the best equipped and managed in the country. It has its own nursing services. It has the distinction of being a leader in all dimensions of healthcare provisioning.

The AMC is intimately integrated with the National Health Programs and provides efficient preventive and curative coverage to all its members. The existing specialised treatment facilities for heart, lungs and kidney diseases and cancer treatment facilities are now being extended to major military stations in the country, with a view to make them available within easy reach of troops and their families. The scourge of Ebola virus afflicting Central and North Africa would have made its deleterious impact on Indian troops deployed in these countries had it not been for the proactive measures of effective screening and early detection of the symptoms among soldiers returning from such countries taken by AMC.

The concerted efforts and endeavour of AMC is on all facets of healthcare provisioning including Human Resources, Infrastructure Development and Technology. These integrated with professional training deliver excellent healthcare to the Indian Army. The key result areas identified include transformation into an



Inauguration of India-Tajikistan Friendship Hospital by President of Tajikistan in presence of Defence Secretary, Mr RK Mathur and Lt Gen VP Chaturvedi, VSM, PHS, DGMS (Army)

all specialised Corps, Human Resource Development including augmentation of skills and competencies of all ranks, Patient Safety and Accreditation of healthcare facilities.

**Modernisation.** AMC hospitals are equipped with state-of-the-art equipment and appropriate expertise to provide optimal care to its clientele. It is providing high-end technologically intensive services such as Assisted Reproductive Techniques, Robotic surgery, Joint Replacements, Oncology services and Rehabilitation prosthetic aids. A Comprehensive "Roadmap for Accreditation of AMC Hospitals" has been put in place to further move ahead towards excellence in health care delivery.

**Humanitarian Assistance and Disaster Management.** The AMC has always been at the forefront in the time of disasters and natural calamities. During the earthquake in Gujarat on 26 January 2001, the Army Medical Corps was the first to provide immediate organised medical relief under the most difficult circumstances in devastated areas of Gujarat, especially areas in and around Bhuj. AMC doctors, nurses and paramedics worked round the clock for the victims of the earthquake. Among the exceptional contributions of AMC during disasters is the selfless service rendered by Base Hospital at Guwahati during the serial bomb blasts in year 2008. The present DGMS (Army), Lt Gen VP Chaturvedi, VSM, PHS who was then commanding this hospital led his team of doctors and paramedical staff by proactively gearing up the hospital to receive wounded victims who were efficiently treated at the hospital. Out of the 58 casualties received, 22 casualties were operated upon back to back for more than 20 hours thus saving innocent lives. The hospital received GOC-in-C's unit citation for its unmatched dedication. This was possible only since the unit was operationally efficient in Disaster Management. The recent floods in Jammu and Kashmir in year 2014 left thousands of people dead and stranded. AMC came to the rescue by establishing 70 medical teams which included two Field Hospitals. Approximately 5 tons and medicine were airlifted and 7000 afflicted civilian population were treated and provided relief, under the able leadership of its DGMS (Army).

**Combat Role.** AMC provides Combat Medical Support through various Field Hospitals and Regimental Medical Officers who are deployed with various regiments and



**LT GEN VP CHATURVEDI, VSM, PHS, DGMS (ARMY)**

The writer took over the reins of Army Medical Corps on 01 July 2014. He was commissioned into the AMC on 02 January 1977. During his illustrious Service career of more than 37 years, Gen Offr has held various coveted appointments. Under his able leadership, 151 BH was awarded GOC-in-C's Unit Citation, Centre of Excellence and Best Zonal Hospital twice.

battalions engaged in combat. Primary among the Field hospitals is also a Para Field Hospital which is the only airborne Medical unit of the Indian Army. It is tasked to provide comprehensive healthcare to troops of the Parachute Brigade in all operational situations. Be it in the higher reaches of Siachen Glacier or in the deserts of Rajasthan, AMC works in harmony with other Arms providing medical care to troops in battle. Trained medical teams are capable of reaching the highest and toughest posts to provide first aid, extract casualties in face of enemy fire and provide resuscitative measures thus saving lives even in the most inhospitable environment.

**Footprints Abroad.** Since Independence, AMC has been a torch bearer of Indian Army in 15 missions abroad as part of UN and otherwise. Presently, AMC has its footprints in 10 countries which include missions as part of United Nations. The role of AMC has been to establish hospital facilities where speciality care is being provided to UN peace keeping troops. One full fledged 45 bedded hospital in Republic of Tajikistan has been established in the year 2013 which was visited by Lt Gen VP Chaturvedi, VSM, PHS, DGMS (Army) during its inauguration. The Indian Military Training Team (IMTRAT) established in Bhutan in 1960 continues to provide efficient healthcare to personnel of the Army.

**Conclusion.** AMC has always stood by its motto of "Sarve Santu Niramayah". It has a glorious history spanning last two centuries and is markedly different from the contemporary healthcare service organisations in the country by virtue of its twin attributes of being a comprehensive healthcare provider in peace as well as in Combat Medical Support. The AMC has excelled in other spheres beyond the professional requirements and the same has been recognised by one and all. Rendering of Combat Medical Support in the combat zone in the most trying conditions by the AMC has been appreciated by award of various gallantry and meritorious service awards including MahaVir Chakras, Kirti Chakras, Shaurya Chakras, Vir Chakras and Ashok Chakra. Some of the pioneers in the medical field from AMC have also been recognised by the awards of Padma Bhushan and Padma Shri. **DSA**

Evolution of Medical Services in India	
The Bengal Medical Service was formed	01 Jan 1764
First Indian Doctor, Dr SCG Chakraborty joined the service	1855
Army Hospital Native Corps was formed	1881
Three Presidency Services of East India Company integrated into "Indian Medical Service"	1896
Army Bearer Corps was formed	1901
Army Hospital Corps (AHC) and Army Bearer Corps (ABC) were amalgamated to form Indian Hospital Corps (IHC)	1920
Indian Army Medical Corps (IAMC) was formed by amalgamation of IMS, IMD and IHC	1943
IAMC was re-designated as Army Medical Corps	26 Jan 1950



Cas evac by MI 17 in Mtn trn, Eastern Comd

# MECHANISED FORCES MODERNISATION IMPERATIVES

The future infantry combat vehicle (FICV) was cleared as the first “Make in India” project by the private sector in 2010. It was an opportunity for the private defence sector companies to gear up their R&D cells, tie-up with foreign defence companies and develop their manufacturing infrastructure to enable them to enter the defence segment in a short time frame. However due to procrastination of all stakeholders the project has been inexplicably delayed. With the impetus being given to indigenous manufacture it is expected that this project will be put on the fast track and part of the delay incurred be retrieved. This is only possible if a dedicated team is earmarked for the project and it is monitored at the highest level.

Asia is now the Global Centre of Gravity and India’s strategic canvas which extends from the Middle East in the west, Malacca Straits in the east, the Central Asia Republics of the former Soviet Union in the north and Indian Ocean Region in the south requires the desired attention to ensure that our security, economic and energy interests are safeguarded. In order to secure our national interests it is imperative that the Armed Forces are equipped and trained to be able to support our national objectives.

The Ministry of Defence has instituted some encouraging measures to ensure that the modernisation of the Armed Forces are put on the fast track and also achieve the much desired objective of indigenisation of military equipment. The policy of giving priority to the category “Make in India” is laudable as also allowing an increase in the FDI from 26 to 49 per cent in Indian defence industry. These measures were long overdue and would give the desired impetus but the results will only be apparent over a period of time. Notwithstanding the naysayers the winds of change are blowing and the onus of exploiting these initiatives rests with the decision-makers in the Ministry of Defence, the Services and the defence industry. One thing is certain that within the decade there would be a revolutionary change in the modernisation of the armed forces. This article will focus on the modernisation imperatives of the mechanised forces – the arm of decision of the land forces.

## Geostrategic Environment

**China:** China has resolved its land border disputes with all its neighbours less India. The frequent border incidents occurring are an indication that the situation may only worsen before being resolved. No doubt China has a head start having modernised their People’s Liberation Army and developed appropriate infrastructure opposite our northern borders to support operations



on a large scale. The PLA is capable of supporting upto 30 divisions in a phased manner all along the northern borders. Their initial advance would be led at their point of choosing by three to four motorised divisions which are *ab initio* deployed in Tibet. These light divisions are each equipped with approximately 120 tanks and ICV’s (Infantry Combat Vehicles), primarily the T-63 Light tanks. The initial thrusts would be followed up with the heavy divisions supported by special /heliborne forces. Therefore it is imperative that our mechanised forces are suitably equipped for operations in high altitude areas and deployed there *ab initio*.

**Pakistan:** Pakistan is at present in turmoil imploding under its own machinations with the mushrooming of numerous terrorist organisations. Currently their focus is directed towards occupying the void created due to the withdrawal of US backed forces. However it would not be long when these very disruptive

forces turn their attention eastwards and attempt to destabilise India. Hence a misadventure by Pakistan supported by their terrorist organisations cannot be ruled out. As regards conventional forces, India has the edge, however their mechanised forces are being modernised at a very fast pace and if the challenge is not matched appropriately our established superiority both in terms of quality and quantity would be eroded.

**Out Of Area Contingencies (OOAC):** If India has to take its rightful place as a regional power and be able to operate within the defined area of interest, it would naturally need its armed forces to be appropriately equipped and trained to be able to defend its island territories and assist any neighbouring nation if the need so arises.

## Global Trends

Currently the world’s flashpoints hover around the Middle East (Iraq, Syria and the ISIS), Afghanistan and Ukraine. For the past decade mechanised forces have been employed successfully in all these areas in various roles. The security forces at present are being employed in the counter-insurgency role and therefore the emphasis on modernisation of their mechanised forces is directed towards tackling insurgency.

Of the three attributes of armoured vehicles mobility, lethality and protection, priority is now being directed towards the latter. Protection against blast and IED (Improvised Explosive Devices) attacks. This has resulted in the tanks having an all up combat weight between 65-70 tonnes and the ICV’s are no longer light nor amphibious.

Except for India (*Arjun*), South Korea (*K-2*) and Turkey (*Altay*) no other country has inducted a newly designed and developed main battle tank to its inventory during the past decade. Most countries have concentrated on modernisation by upgrading their existing tanks sub-assemblies. Keeping in view their operational requirement the demand for armoured vehicles has swung towards APCs (both wheeled and tracked). Mine Resistant Ambush Protected (MRAP) and Light Protected Vehicles (for reconnaissance and surveillance). Limited development is also being done on UGVs (Unmanned Ground Vehicles).

If protection is to be given paramount importance, the technology areas where investment is to be increased are given below:

**● Active Protection System:** With the plethora of hand held anti-tank weapon systems available there is an urgent need of armoured vehicles to be provided with protection systems which can defeat both kinetic energy (KE) and chemical energy (CE) munitions. The Trophy, Iron Fist and Arena are few of the better known systems available in the market.

Keeping in view our operational requirement the majority of the armoured vehicles need tracks. However there are a number of contingencies where wheeled vehicles perform their task in a more efficient and effective manner

**● Active Mine Protection System:** Mine clearing devices have been fitted on armoured vehicles since the past five decades, however for greater protection armoured vehicles now need active protection systems which can neutralise mines prior to the vehicle physically traversing the area.

**● Modular Ballistic Protection:** The requirements for protection for various operations differ hence armoured vehicles need modular protection suits which can be added or removed depending on the threat and type of operation being conducted.

**● Identification Friend or Foe:** The speed of engagement is ever increasing as also the chances of fratricide. Hence it is now imperative that all combat vehicles (land / air) are fitted with IFF devices so that inadvertent mistakes do not occur.

**● Situational Awareness:** The effectiveness of the armoured vehicle is multiplied if an efficient battlefield management system (BMS) is available to the crew.

## India’s Mechanised Forces

Modernisation of mechanised forces is an ongoing process which needs to be reviewed from time to time due to changes in the threat perception, induction of new technology and availability of supporting finances.

## Tanks

With the induction of the *Arjun* and the *T-90S* tanks the potency of the force has received a fillip. However despite their recent induction, both these tanks need to be upgraded to face the challenges in the future.

**● Protection:** Both tanks need the APS which is on the priority list but keeps getting postponed / delayed. It is now time to act and select the most suitable system and have it fitted on all armoured vehicles. The IFF system has to be developed by the DRDO, being a tri-Service requirement its induction gets further complicated. The Integrated Defence Staff needs to take the lead to finalise this vital development project at the earliest. As regards the *Arjun* its Kanchan armour needs to be further augmented by adding explosive reactive armour (ERA).

**● Mobility:** Attempts to upgrade the engine power of the *T-72* tanks have not met with success.

As these tanks comprise our mainstay fleet this aspect needs urgent attention. Simultaneously, upgrading / replacing the *T-90* and *Arjun* tank engines to 1500 / 1800 HP respectively needs to be implemented within the next 2 / 3 years.

**● Lethality:** The lethality and variety of ammunition for the *T-72* / *T-90* / *Arjun* needs augmentation. It is expected



**LT GEN DALIP BHARDWAJ PVSM, VSM (RETD)**

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that with the penetration-cum-blast (PCB) and anti-personnel anti-material (APAM) ammunition the tank commanders would have greater flexibility. However it is the penetration capability of the main armour-piercing fin-stabilised disposable sabot (APFSDS) ammunition which needs enhancement which is possible if the density of the core of the penetrator is increased. For the T-72 tanks the thermal imaging fire control system (TIFCS) will no doubt enhance its effectiveness, however it is the Arjun which needs a laser beam rider / laser guided missile to extend its battle range. All tanks need to be upgraded with a remote control weapon system (RCWS) to effectively engage air and soft ground targets.

● **Communications:** The electronic environment in which mechanised forces are expected to operate would demand a universal, effective and secure communication system for transmission of voice and data which should be compatible to the BMS. The introduction of the software defined radio with the BMS needs to be put on the fast track.

**Future Main Battle Tank**

The Arjun took more than three decades to be inducted into service. At present the CVRDE is concentrating on upgrading the Arjun to Mark II status which no doubt will give it a quantum jump in performance. Having learnt from the experience in developing Arjun the FMBT no doubt will be inducted in a faster time frame. The GSQR is being finalised jointly by the users and DRDO and it is expected that a medium weight tank effective in all types of terrain would be available to the users between 2020-25. In view of the anticipated delay it would mean that the life span of the T-72 tanks duly modernised would need to be extended.

**Infantry Combat Vehicle (ICV)**

The BMP-2 ICV has been our mainstay for the past four decades and in October 2014 the DAC cleared the procurement of an additional 372 BMP-2 ICVs. No doubt the BMP-2M (Modernised) is a very potent combat vehicle and would support the mechanised forces for another two decades, if all the modernisation programmes are fully implemented. However the basic design of the vehicle is late 1960s hence there is a limit to the upgrades that possibly can be fitted to enhance its capability. Hence the need to design and develop an indigenous future ICV (FICV). Once the BMP-2M gets its full complement of upgrades as scheduled to include an uprated 480hp engine, an integrated fire control system with TI sights dual missile launch capability with a third generation fire and forget missile, enhanced protection with ERA panels it will be a potent combat vehicle for at least the next two decades.

**FICV**

The future infantry combat vehicle (FICV) was cleared as the first "Make in India" project by the private sector in 2010. It was an opportunity for the private defence

sector companies to gear up their R&D cells, tie-up with foreign defence companies and develop their manufacturing infrastructure to enable them to enter the defence segment in a short time frame. It was anticipated that after shortlisting two prospective vendors they would be funded by the MoD to develop and field their prototypes by 2017. However due to procrastination of all stakeholders the project has been inexplicably delayed. With the impetus being given to indigenous manufacture it is expected that this project will be put on the fast track and part of the delay incurred be retrieved. This is only possible if a dedicated team is earmarked for the project and it is monitored at the highest level.

**Wheels Vs Tracks**

Keeping in view our operational requirement the majority of the armoured vehicles need tracks. However there are a number of contingencies where wheeled vehicles perform their task in a more efficient and effective manner such as in OOAC, counter-insurgency and riverine terrain (NE). These combat vehicles also provide the commanders that additional tactical mobility when reacting to unforeseen situations in mountainous and high altitude areas where lateral movement of armoured vehicles is restricted. Hence the GSQR of the FICV laid down this dual requirement. These wheeled vehicles could also equip the rapid deployment divisions and the paramilitary forces. The choice of a light tank being wheeled or tracked is debatable, however the current light tanks available in the open market are wheeled yet mounting a 120 mm soft recoil gun. Hence if a limited number of tanks are to be procured an off the shelf one time buy may be the answer.

**Light Vehicles**

One of the most critical inputs for a commanding officer is gaining battlefield intelligence through their recce troops and platoons. The Gypsy and Jeeps have long outlived their utility and hence need to be upgraded. Recce troops across the world have now inducted vehicles having greater mobility and protection and adequate space to accommodate their surveillance equipment and weapons. Hence this new family of vehicles are heavier (approx 8 tonnes) and can withstand small arms fire and have the power to move in all types of terrain. A number of Indian private companies have shown their capability and interest to develop these vehicles, however this project also needs an impetus as a basic vehicle for recce, surveillance and weapon platform for all combat arms.

**Conclusion**

The modernisation of equipment of mechanised forces needs that additional impetus so as to perform the anticipated operational tasks in the future. It is possible to achieve the desired targets if a dedicated team with the authority and financial power is made responsible for these projects. **DSA**



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# A MATTER OF MILITARY DOCTRINE

The point to note is that in the Indian system of defence management, a substantial political directive that would provoke strategic vision and lend to formulation of a realistic military doctrine, is yet to be promulgated. It is not the case that the Indian defence system had been groping directionless all these years, but what is meant is that the system had been afflicted by transitory commitments, tentative planning and unsteady fiscal support from the state.

*The only thing harder than getting new things into the military mind is to get the old ones out. — Liddell Hart*



A nation's military institution is an exclusive investment that is dedicated to protect its interests when harmless forms of parleys fail to impress the adversary's quest for undue impositions. Political theory therefore mandates that enunciation of grand strategy, that is, as to when and to what extent a nation will choose to apply military power to protect her interests and organising and equipping military forces for them to be able to secure those goals, is a role for the national leadership to undertake. These are the conditions which provide the foundation over which a nation's particular brand of military theology is to be devised.

## Doctrine Reflects National Strength

Obviously, that theology must harness the nation's intrinsic strengths and at the same time, cover its deficiencies, both these factors being conditioned by terrain, human resource, scientific temper and industrial capacity at the nation's disposal. Evolution of a best suited military doctrine therefore requires conjoined involvement of the nation's political hierarchy, its military leadership and various contributing state institutions.

Let us see as to how competently have we been able to evolve our indigenous military doctrine to address our security challenges in the contemporary era. But before that, we may briefly take note of similar propositions that have been adopted by leading military powers.

## Common Strategies

Needless to state, characteristics of 'Revolution in Military Affairs' (RMA) are invariably reflected in the strategic propositions adopted by all modern defence forces. It is so that there are certain common features propagated in their military doctrines. These commonalities are:

- Rapidly deployable, all-arm, inter-service expeditionary forces.
- Strategic sea, air-lift and unit mobility.
- Precision stand-off firepower.
- High technology Command, Control, Communication, Computer, Intelligence, Integration, Surveillance and Reconnaissance (C4I2SR) capabilities, reinforced with Space capabilities.
- Empowerment of Special Forces to undertake unconventional military operations in the role of point elements of conventional forces.
- Smaller, modular units manned by highly trained troops and organised for all the 'four generations' of warfare.
- Synergy among political, military and civilian organs of the state, particularly in peace-keeping and 'stabilisation' tasks.

Indeed, to some extent, each nation has adopted different approaches to secure the aforesaid features as it suits them, but the goals set are generally convergent. Therefore, a glimpse over the doctrinal approaches adopted by various nations could be a guide to our discussion.

## The Russian Doctrine

The Russian leadership sets its new military

goals through promulgation of the 'State Armament Programme, 2015' and a 'Draft Military Doctrine, 2007' and its amplification through a 'New Draft, 2012'. These political directives dictate the following doctrinal aspects:

- 'Instability on Southern Border', 'Radical Religionism', 'Separatist Movements' and 'Transnational Crime and Terrorism' are identified as national threats.
- Modernisation of the forces is effected by upgrade of existing weaponry and equipment, quality intake and training, thus saving on costs.
- Armed forces are reduced to 1.1 million, with the goal of doing away with conscription.
- External and internal threats are accorded equal importance.
- Creation of 'National Counter Terrorism Committee', 'Federal Security Force' and a 'Peace Keeping Brigade', each with its dedicated role.
- Thrust on space rather than terrestrial systems for application of C4I2SR.
- Dependence on nuclear 'Triad' to cover conventional weakness till strategic proportionality is achieved, by 2015.

As a natural corollary, sweeping 'Military Reforms' have gained pace since 2012. Restructuring, aimed at turning 'brigade' into basic fighting formation, unified joint-service command and combat-readiness for local and regional conflicts, are one aspect of that reform. The second aspect is to modernise the armed forces with state-of-the-art weaponry and equipment under the provisions of an updated 'State Armament Programme, 2020', an ever reliable defence industry playing key role. The third aspect of reforms relates to armed forces' personnel management issues such as education, training, welfare and outsourcing for services. With all the state institutions geared up to that purpose, resurgence of Russian military power by the 2020's is well on the cards.

## United Kingdom's Military Doctrine

Since the late 1990's, the British government has regularly undertaken a series of professionally objective 'Strategic Defence Reviews'. In 2003, a 'Defence White Paper' followed, which led to the following doctrinal and functional changes:

- Structuring of a 'Joint Rapid Reaction Force' having expeditionary capabilities to operate in conjunction with US Forces.
- Power-projection through carrier-borne forces and brown water operations.
- The Air Force is tuned to undertake air-lift and stand-off engagements.
- Reductions in heavy armour, infantry, land-based aircraft, anti-submarine ships and restructuring the Army into two light, three medium and two heavy brigades.
- Grouping of the legendary Special Air Service, the Special Boat Service and the Special Reconnaissance Regiments into a 'Special Forces Group'.
- For homeland security, a paramilitary 'Civil Contingency Reaction Force' was raised under the Home Office.

The latest 'Strategic Defence and Security Review, 2010', was focused on "the Armed Forces which the

UK will need over the next decade and beyond to meet the most likely future threats". A fresh review of the apex level defence structure and management followed which recommended measures to make these operationally more effective and administratively efficient.

Notably, by her dynamic revalidations, Britain is able to extract maximum advantages of its optimal investment in its military institution.

## PLA Doctrine

Promulgated under the 'National Military Strategy Guidelines for the New Period' of 1993 vintage and its updated versions that enunciate the purpose as 'Fighting Local Wars Under Conditions of Informationalisation', China's 'military modernisation' have been a well articulated and deliberate initiative. Towards that goal, the strategic challenges have been identified as: One, assimilation of Taiwan; two, containment of America's role in Asia; three, dealing with Japan's military challenge; and four, hegemonic predominance in the neighbourhood. This definition has led to the development of the People's Liberation Army's (PLA) doctrine of 'Integrated Joint Warfare' and its execution under the concept of 'War Zone Campaign', the salient features being:

- Restructure of the PLA's 'Military Regions' and reorganisation of field formations into corps, divisions and brigades, the last being the basic formation. Upgrade of the 'Second Artillery Corps' which operates nuclear and missile forces is a part of that initiative.
- Infusion of strategic capabilities into the PLA Navy and PLA Air Force for longer ranges of operation, precision strike capability and multi-dimensional deployment of marine and airborne corps.
- Selective enabling of 'Rapid Reaction Forces' and 'Special Operation Forces', into 'Packets of Excellence'.
- Development of 'Integrated Logistic System' to support intra and inter-service operations.
- Initiation of high-technology space and counter-space programmes with thrust on development of reconnaissance, navigation and communication satellites and satellite interception.
- Centralised control over Information Warfare resources – reconnaissance, navigation, unmanned aerial vehicles etc – and development of cyber-war, space-war and the 'Three Warfare' – psychological, media and 'legal' warfare, to wit – capabilities.
- Upgrade of military-industry through indigenous technological research and development, import of dual-use technologies and transfer of military technology from Russia and Israel.
- Scientific education of the soldiery to turn peasants into techno-savvy war-fighters.



**LT GEN GAUTAM BANERJEE**  
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The writer was commissioned into the Corps of Engineers in June 1971. During his 40 years of service, the writer has taken part in all operations and has served in all field and high altitude areas. He was the Chief of Staff, Central Command and then the Commandant, Officer Training Academy, Chennai before superannuating in June 2011.



- Expansion of military as well as quasi-military industrial base to include the entire range of technologies – nuclear, aviation, missile, space, shipbuilding, communication, engineering, down to small arms and other wherewithal of war.
- Sustained allocation of defence budget with an average growth of around 12 per cent.

Indeed, China's political direction is focused enough for their military leadership to envision the stages of 'War-fighting in the New Period' as follows:

- Stage 1: 'Domination, Deterrence and Posturing' to make the adversary see 'reason' and back out from military confrontation.
- Stage 2: 'Gaining Initiative by Striking First' by means of pre-emptive strikes, to give to the adversary a taste of impending punishment. 'Quick Battle to Force a Quick Resolution' to chastise a still defiant adversary.
- In case favourable resolution of the conflict is still not forthcoming, 'In-depth Strike' would follow till the desired point of culmination is reached.

Needless to state, with her political theology moored at articulation of military power, China's military modernisation has been a comprehensive endeavour. In similar vein, many other nations, France, Germany, Australia, Pakistan and Saudi Arabia among them, have articulated their politico-military objectives and thus helped evolution of their contemporary military doctrine. Indeed, the best example of that system is observable in the 'Quadrennial Defense Reviews' and the 'Strategic Planning Guidance' that are regularly undertaken in the United States.

Having had an overview of the doctrinal initiatives of major military powers, we may now turn homewards to see as to what might be our cause in this regard.

### Evolution Of India's Military Doctrine

Till the early 1970's, there was no formal political directive to guide the build-up of Indian defence strategy – it was an informal 'understanding' among the defence planners which ruled. Besides, promulgated in the aftermath of the 1962 military debacle, there was a specified outline of 'sanctioned force-structure' which was actually addressed to procurement and maintenance of military hardware and management of personnel. The role of the armed forces had been broadly defined as: One, defence against external military threat; two, assistance in preservation of internal security; and three, aid during natural calamities. Even then, but for the 'Union War Book' which contained guidelines for the other arms of the state to comply in a military emergency, these roles had not been formally elaborated into executable doctrine(s) for the military establishment to adopt, as it is the case with the other nations discussed above. The Indian military therefore prepares itself based on what is known as the 'Raksha Mantri's Directive'. This 'Directive' enjoins maintenance of specified war waging capabilities without specifying as to the kinds of war to wage or strategies to adopt. Further, official reports indicate that notwithstanding its sanctity, the defence forces are not fully equipped to be in position to adhere to that Directive; there is reckonable shortfall in weaponry, ammunition, military hardware, even junior leadership and quality of soldiery.

### Too Service-centric

Nevertheless, some years back, each of the three Services had published their doctrines. These documents however convey little more than military aspirations which, even if perceived professionally, are dominated by partisan service-centricity. A 'joint-service doctrine' was also promulgated later while the Raksha Mantri's Directive was reportedly updated, but these too fail to evoke ingenious strategies in the context of India's contemporary military challenges. Moreover, in absence of formal endorsement from the political leadership and commitment of support from other state-institutions, such propositions are bound to remain in half-cock. For example, the doctrine of 'Cold Start' operations – later somewhat cooled down – could be workable only if the political 'end-state' is specified and the entire defence sector is ever-ready in terms of intelligence, mobilisation, transportation, deployment, industrial surge-production etc. Similarly, an effective doctrine on Sub-Conventional Warfare would be contingent upon the Army's primacy in unified command, integrated intelligence, civic actions by other state-institutions and kick-start of political process. Conversely, being beyond the armed forces' preview, the aforesaid conditions are difficult to be met in absence of clear political direction.

The point to note therefore is that in the Indian system of defence management, a substantial *political directive* that would provoke *strategic vision* and lend to formulation of a realistic *military doctrine*, is yet to be promulgated. It is not the case that the Indian defence system had been groping directionless all these years, but what is meant is that the system had been afflicted by transitory commitments, tentative planning and unsteady fiscal support from the state. Development of indigenous military theology has thus been stymied and that in turn has caused imbalances in the military force-structure. The result is that returns from the nation's investments in military security remains below par. In the contemporary period of geopolitical and economic trends, that is a debility to be restored with alacrity.

### Doctrinal Considerations

Taking cue from the observable trends, it is realistic to postulate that a political direction for the Indian military could be outlined as: One, to dissuade China from attempting to secure her territorial claims by military means; and two, to defeat Pakistan's never-ending military campaign – proxy, subversive or regular war – and deter her from indulging in military adventurism in the future. Added to these directions could be the commitments to suppress insurgencies gone out-of-hand, participate in UN and allied operations and respond to disaster relief. Thus the *political direction* could infer to the *strategies* adoptable and the corresponding *doctrines* for application of military power to political purpose.

For example, India's contemporary military doctrine could envision that to dissuade China, the politico-diplomatic cost of military aggression may have to be rendered unprofitable – just the military cost may not deter her. One way to do so could be to offer strong resistance of varying tempo over a long-drawn war, thus denying her the satisfaction of proclaiming victory. Customising the advantageous features of the terrain, the corresponding doctrine could profess

display of patience as well as audacity to prosecute a combination of short intense battles, intermittent low-intensity engagements, special operations deep across and periods of dormancy, by committal of irregular, mechanised and 'special' operations capability and backed up with massive firepower, terrain-mobility and robust logistics. Having mastered high-altitude operations over the decades, the doctrine could also profess continuation of operations during non-campaigning seasons to put the aggressor to severe test. In short, that doctrine may be adapted to the *Strategy of Attrition*.

In similar vein, strong manoeuvre forces of balanced composition, to be launched to conduct deliberate, sharp, short – but long enough for manifestation of the nation's intrinsic strengths – and debilitating operations may be the recourse to defang an intransigent Pakistan. The corresponding doctrine could thus be structured according to the *Strategy of Annihilation* and profess application of 'special', 'strike' and 'main' forces, each having its 'manoeuvre' and 'precision-attrition' elements to meet the purpose. Such forces would also fit into operations executable under the aegis of the UN or global alliances.

Lastly, controlling internal insurgencies from blowing up into national threat and to create conditions for political settlements would require application of light infantry forces – as it is already in place in the form of the 'Rashtriya Rifles' – with enhanced supporting elements. The doctrine in this instance could profess the *Strategy of Exhaustion*.

It would be seen that much of the afore-stated frameworks are already in place, though there would still be much to do to address the deficiencies, voids, obsolescence and most crucially, to promote innovation of operational concepts and practices in tune with the contemporary 'Revolution in Military Affairs' in the Indian context. Need for a competent and innovative military doctrine with a stamp of native characteristics is therefore a call of the day.

### Doctrinal Platform

Even if it is envisioned purely from military intellect, the Indian military doctrine must remain a national endeavour and as a corollary, in the focus of civilian sectors. The foremost factor in this regard is the efficiency of the nation's intelligence set up. Though much progress has been made during the past decade in vitalising the Indian intelligence system, there yet remains a void in terms of data-mining of *military-specific intelligence problems* and cooption of military expertise in that set up. In similar vein, conjoined organisational set up in the fields of *Information Warfare, Cyber Security* and *Space Application* must be the guiding factors for a competent military doctrine to evolve.

Further, the indigenous military doctrine must find sustenance from the nation's *technological infrastructure, industrial capacities* and *human capital* and in so doing, it must be customised to harness national strengths to

cover the limitations. For example, military industry in India is at a nascent stage; we are dependent on others for many of our major weaponry and equipment. Conversely, India is competent in construction, transportation and IT engineering. Therefore, while we must remain committed to imports and indigenous development of sophisticated military hardware, there is also a case for *force-multiplication* of such hardware through logistic enhancements of operational capabilities – transportation, communications, storage, material handling, earthwork and bridging capability – that would provide to our commanders more tactical freedom to deploy their dear resources in succession. Similarly, we could exploit IT to disorient the adversary and corrupt his command and control set up and so make-up, to some extent, for our limitations in sophisticated weaponry. Our capacity to produce modest designs in large numbers could be harnessed to confront sophistication with numbers till our military industry comes of age. Lastly, ingenious, fearless and hardy *soldier* being our best asset, the nation could invest more in his training

and morale; as military history points out, this has been a pristine method to compensate for technological limitations.

**Even if it is envisioned purely from military intellect, the Indian military doctrine must remain a national endeavour, and as a corollary, in the focus of civilian sectors. The foremost factor in this regard is the efficiency of the nation's intelligence set up**

### The Nuclear Angle

The contemporary military doctrine may not be stymied by presumptuous self-effacing as it seems to be today. It could repudiate the manipulations of Pakistan's 'rationality of irrationality' and fuzzy 'nuclear thresholds', these

being meaningless under her innate anti-Indian DNA, both of fanatic and deliberate variety. Similarly, the concept of 'minimum nuclear deterrence' may not deter China's military aggression. Evolution of a competent military doctrine free from such nuclear nightmares may enable India to nurture and articulate her conventional military capabilities, to find her destiny free from threats – to earn the right *peace-dividend* from military power, so to say.

### The Final Call

With far reaching changes in geopolitics – and therefore in the causes and courses of war – time is ripe for another attempt at drafting a customised indigenous military doctrine. However, as doctrinal and structural changes are but interlinked, for the doctrine to be implementable, the harbingers – that is, the *executive functionaries*, both within the military as well as in the defence bureaucracy – would have to be aligned to the purpose. Further, there is a need to render the defence management system more responsive to the contemporary pace of events and complexities of processes.

The fundamentals vitalised, a truly beaconing military doctrine may mould the Indian military institution according to the compatible political mandate, guide the goals and structure of the three services and propel defence bureaucracy, research, industry and fiscal provisions towards a convergent purpose.

# RASHTRIYA RIFLES THE FEARLESS FORCE

The need to avoid deploying the regular Army and yet having its expertise, effectiveness, ethos and leadership style, was the crying need. The RR has achieved all that in style much before the US Forces came up with the COIN doctrine. How did all this happen and how has the RR come to be classified as India's finest experiment and innovation in the military field; this needs examination of some facts and serious analysis.

**M**any may fear the Rashtriya Rifles in areas wherever it is deployed in J&K but they never fail to respect it either; it has fought militancy and terror for over 23 years and is feared for its ruthlessness against those who spread terror and respected by those who know that it is a force for the safety and well-being of the people. In this article, the writer's hands-on experience of handling the Rashtriya Rifles at different levels and in different situations helps explain its unique professionalism and ethos.



Just around the end of the last millennium I was attending the Army's Higher Command Course at Mhow. It wasn't expected that on completion of the Course I would get a field posting because my profile wasn't exactly peace oriented. Yet, MS Branch pulled a rabbit and I found myself posted as the Colonel General Staff of HQ Counter Insurgency Force (Victor) of the Rashtriya Rifles (RR), in short Victor Force, deployed in South Kashmir. Surprisingly, we had no Commanding Officer from RR attending the Course and perceptions about the RR were still hazy, almost seven to eight years after its raising and deployment in the active counter insurgency (CI) environment of J&K. Even a very senior officer at Mhow felt that I deserved better because as per him, the learning value in such an appointment would be next to nil. I remember almost the exact words - "It does not even have an artillery brigade and no support and logistics units - what an appointment after HC Course". A disheartened me arrived at Avantipur, the location of HQ Victor Force; one look at the operational works based accommodation and the ramshackle officers mess was sufficient to reveal that this wasn't going to be easy. But I was in for a shock in the evening and next two days as I witnessed the lower staff handling back to back operations being conducted by 7 RR at Shangus and Chhatergul, by 9 RR near Deosar and 36 RR at Velu in the Bring Valley. A large number of terrorists



were killed and casevac sorties were flying up and down from the famous helipad at Badami Bagh. As an old hand at CI I was at home and realised that operations were always my destiny. A few days on the job, handling redeployment in the wake of the move of formations due to the Kargil intrusion and I knew this was my true calling. I had come back to where the action was, almost like the proverbial Marlboro Man.

### Worthy Of Praise

The next two years were a roller coaster with total involvement with mapping communication intercepts, understanding terrorist personalities, securing movement to prevent IEDs and enabling the outstanding RR units in carrying out their responsibilities. Those were the days when Victor Force neutralised as many as 40-45 terrorists in a single month. It was conflict progression stage of the internal conflict. The RR experience at the staff level was truly inspiring; I can imagine how inspiring and how intricate would be the experience of the unit and sub-unit commanders. That is why a few months ago I wrote a full cover story elsewhere on the need for the nation to be truly grateful to the RR warriors.

The RR is not a just another force. There was a clear purpose behind raising it. The Army's involvement

in internal conflict by the late eighties was becoming too frequent; it started with the Northeast in the fifties which continues to the day but the trigger was the involvement in Punjab. This was followed by the deployment of over a hundred thousand troops in out of area operations in Sri Lanka, an operation akin to CI. The need to avoid deploying the regular Army and yet having its expertise, effectiveness, ethos and leadership style, was the crying need. The RR has achieved all that in style much before the US Forces came up with the (COIN) doctrine. How did all this happen and how has the RR come to be classified as India's finest experiment and innovation in the military field; this needs examination of some facts and serious analysis.

### CI-centric Force

It was during the stewardship of the Military Operations Directorate by late Gen (then Lt Gen) BC Joshi that the case for the raising of the Rashtriya Rifles was initiated and seen through to its logical end. Experience of many years of CI went into initiating the correct structure and the temptation to burden it with logistics and firepower for contingencies requiring deployment for conventional operations was strongly resisted. That was the right focus. It was supposed to be a Force for CI anywhere in the rim land areas of the border states to replace the Army and was originally supposed to comprise a mix of regulars, ex-servicemen and direct inductees, under the serving officer cadre of the Army. The first deployment was in Punjab in 1991 but subsequently the RR's focus shifted entirely to J&K as the internal conflict panned into a proxy war and an existential threat. Organisationally, as the Force developed it acquired the Regimental footprint of the Army's Infantry regiments; the original affiliations when the units were raised were modified and the structure has undergone changes over the last 23 years. An important aspect to be aware of is the fact that the Infantry bore the brunt of CI for many years which upset much of its peace to field profile forcing shortened peace tenures. To overcome this, the structure of the RR ensured that the burden of CI would be shared by all Arms and even Services.

### Amalgamated Identity

The broad composition of units has evolved to be now around 50 per cent Infantry (single Regiment - Garhwal Rifles for instance), thirty per cent from another Arm (example - Armoured Corps) and the rest from Engineers, Signals, ASC, AOC and AMC to perform specific tasks. The Engineers carry out combat engineering jobs such as bomb disposal, preparing explosive charges etc, the Signals provide specialised communications support, ASC provides the entire set of drivers, AOC provides the stores management support

and the AMC gives medical assistance including casualty management. One group which needs special mention is the section plus strength of the Jammu and Kashmir (JAK) Light Infantry which gives liaison and interpretation support, being men from the local areas. This is an amazing amalgam which brings people from every part of India, every faith, different caps, badges and lanyards under the single entity of an RR cap badge and lanyard; not an easy thing to shed narrow loyalties of the Regimental culture to function together under a new identity.

### Regimental Ethos

Yet, it has worked wonderfully for a couple of reasons. First, the originators were sensible in reducing diversity by having the base from a single Infantry Regiment which provides the Commanding Officer, the Subedar Major, bulk of officers and JCOs and half the men.

**The originators were sensible in reducing diversity by having the base from a single Infantry Regiment which provides the Commanding Officer, the Subedar Major, bulk of officers and JCOs and half the men**

Second, the base Regiment takes ownership of the unit even though the RR Directorate is the mother agency at the IHQ of MoD (Army), Delhi which looks after all equipping, finances, policy, coordination of courses (although very few men proceed on training courses), limited personnel management and anything else which the base Regiment does not touch. The Colonel of the Regiment of the concerned base Regiment also takes ownership and ensures his sage advice and motivational visits. Third, in the RR tactical CI / CT operations are the main purpose of all personnel irrespective whether they have other specialised tasks. I have been witness to some outstanding RR soldiers from all the contributing Arms and Services and they are always volunteers to return for second stints because there are limitations on the tour of duty. A combat soldier of the ISAF in Afghanistan did / does six months of duty before rotation; an RR soldier does 24 months while his officer does 30 months. This provides greater continuity, time for bonding under continued threats, gaining of expertise and in fact, much pride in the stamina and ability to weather the rough and tough of J&K's varied terrain and climes. Fourth and last of the reasons is the risk factor; there is nothing like bonding under stress of irregular contacts. Most base Regiments have gone to the extent of nominating certain units within the Regiment that are linked to an RR unit. It makes it easier for the RR unit too, to maintain contact with limited number of units.



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Many Arms which provide the 30 per cent strength do so from a limited set of units so that the same logic of limited units to deal with, is followed. A typical make up of an RR unit, 14 RR for instance, comprises troops from six Garhwal Rifles units, while the Armoured Corps, the non-basic Army Arm provides troops and officers largely from six high profile regiments.

### Choice Of Weapons

Weapons and equipment wise the RR is well equipped for its main role. The AK-47 forms the basic assault rifle but light machine guns are of the INSAS variety. RR units have an 81 mm mortar platoon each although this weapon has hardly ever been used in CI operations except in an odd jungle based operation away from populated areas. The Automatic Grenade Launcher (AGL) which did not exist on the authorisation table has now been provided to the RR units at the scale of one per company after the experience of its effectiveness in semi-urban CI operations; earlier RR units had to borrow these from neighbouring Infantry units if any existed in the area. More important to remember is that in spite of the large array of weaponry at its disposal the RR continues to abide by the principle of minimum force.

### Flush-out Techniques

It has also migrated from the concept of large scale cordon-and-search operations to intelligence-based limited cordon on specific objectives and stake out operations with small teams. There are numerous instances of some daring officers and men forming small teams of 4-6 men and conducting covert operations in militant infested remote areas. Surprisingly, Bollywood has never cashed in on this concept. Experiments have also been carried out with small team based 'swarming operations' where an objective area in a jungle is flooded with such teams which are turned over every 72 hours to prolong the operations and force the terrorists out of their hideouts due to sheer pressure of logistic inability and stamina.

The RR's responsibility is the conduct of CI / CT operations and control of insurgency / terror within the state of J&K. For this it works very closely with the J&K Police and intelligence agencies with which integration is essential. In parallel with the conduct of kinetic operations it is essential for any such institution to fraternise with the population and create a positive environment in its area of responsibility. For this the Army provides funds for Sadbhavana which is its military civic action programme; the pillars on which this programme is built are essentially five areas - infrastructure, national integration, medical assistance, women empowerment and most importantly, education. Each RR unit spends the funds on the basis of the identified sensitivities, weaknesses and requirements of its area. The whole idea is to establish a conducive environment and ensure some

development work as well, especially in the light of the inability of the local administration to optimally deliver. The Army Goodwill Schools set up by the Army / RR are model schools in J&K.

While RR troops do not proceed on Army level training courses there is continuous in-house training especially on cultural aspects and sensitivity issues. These are conducted at the Corps Battle Schools which prepare individuals and sub-units to operate in the environment of J&K. Human rights is one of the major aspects in which troops are sensitised. Whenever weaknesses are noticed in battle drills there are intense efforts to overcome these through such training. For example it was found that most casualties of own troops take place in the first two minutes of an encounter. This has largely been overcome now. Since almost half the unit manpower of an RR unit turns over every year there the challenge of ensuring that no troops are deployed for operations without orientation. This disadvantage is offset by the fact that there is institutional intelligence due to the near permanent presence of these units in the areas of responsibility.

A combat soldier of the International Security Assistance Force (ISAF) in Afghanistan did / does six months of duty before rotation; an RR soldier does 24 months while his officer does 30 months

The RR's battle orientation and inoculation, ability to provide opportunities for on the job training and its offensive spirit have been well recognised leading to demands for an expanded role in conventional operations. Contingency plans already exist for this but in the interim RR units are now involved in intensive counter infiltration operations along the LoC. This has led to the effective blocking of loopholes in the counter-infiltration grid.

### Mainstreaming J&K

At the conflict stabilisation stage which the RR has fought so assiduously to achieve, it is essential to conduct smart operations and not just kinetic operations. A successful operation must end with terrorists eliminated, cache destroyed and no turbulence in the local area; as far as possible collateral damage has to be minimised. With very few terrorists left to eliminate the path to conflict termination and ultimate victory over the adversary lies in smart operations where the contributory effort towards integration of the population is most focused. The task of the RR is to mainstream the entire J&K with rest of the nation. Until that happens the RR is there to stay in the state of J&K.

Secretly, I thank MS Branch every other day for having given me experience in varied terrain and a variety of situations but I thank it most for having given me a two year RR experience in most turbulent times. It was immaterial whether Victor Force had no artillery and no permanent logistics assets. It had tremendous spirit and a great opportunity to learn the minutest details of Irregular Warfare. That held me in good stead and helped me in having mental clarity in my subsequent tenures in the valley. USA

# General Dalbir Singh

## PVSM, UYSM, AVSM, VSM, ADC



**G**eneral Dalbir Singh, PVSM, UYSM, AVSM, VSM, ADC, the 26th Chief of the Army Staff of the Indian Army is an alumnus of Sainik School, Chittorgarh. He joined National Defence Academy (NDA) in 1970 and was commissioned into 4/5 GR (FF) in June 1974.

In a distinguished military career, spanning four decades, he has tenanted critical Command and Staff appointments which include tactical and operational levels of command in active counter insurgency and proxy war environment in the North East and Jammu and Kashmir. The General possesses tremendous operational experience which includes a tenure as a Company Commander in Op PAWAN in Sri Lanka, raising and commanding a Rashtriya Rifles Battalion in Nagaland and an Infantry Brigade deeply committed in intense Counter Insurgency Operations in the Kashmir Valley. He also holds the distinction of commanding a Mountain Division in J&K, deployed on the Line of Control in High Altitude Area.

The General Officer was General Officer Commanding of a Corps, looking after the dual responsibility of Counter Insurgency Operations in the North Eastern States, as well as conventional operational tasks along the Indo-China Border and later as the General Officer Commanding in Chief, Eastern Command.

The General is the Colonel of the Regiment, 5 GR (FF) and the President, Gorkha Brigade. USA

# FOREIGN INVOLVEMENT IN INSURGENCY

The Indian Army has not allowed any part of India to secede or disintegrate from India, through the “power of gun”. It will not allow it in future also. But disintegration results due to “mindset” of people against which no weapon can be used. This has to be achieved through political process and governing mechanism.

**A** key aspect of insurgency in the northeast has been support from foreign countries specially western countries, China and Pakistan. Proximity to Myanmar, China and East Pakistan (now Bangladesh) also meant that the insurgents use these countries as their bases for training, arming, retreat and for staging attacks in northeast. The involvement of foreign countries has helped sustain the insurgency for almost six decades it has plagued the northeast. Chinese and Pakistani assistance to anti-national elements in India including northeast escalated during the 1960s and 1970s in step with rising political, diplomatic tensions and military conflicts (eg 1962 India-China War, India-Pakistan Wars of 1965 and 1971).

## China's Tibetan Vengeance

Both China and Pakistan's involvement in insurgency in northeast and unrest in different parts of India flowed less from its Maoist heritage of supporting revolutionary and liberation war and more from its suspicion and displeasure with India's perceived support to the Tibetan resistance movement and sheltering refugees from Tibet. Both Chinese and Pakistani calculations have probably been influenced by their desire to foment trouble in India to force the Indian government to remain preoccupied with domestic affairs, leaving China (with the assistance and help from Pakistan) a free hand to be a dominant power in the region. This has emerged as a harsh ground reality now in the world of 21st century. This coincided with the anger and suspicion of western world towards India during Cold War period. It would be appropriate to cite few examples. “Western perceptions of northeast India”. Report by Agencia-International De-Prensa (International Press Service)-1966: Report regarding creation of “United and Independent Bengal” comprising of East Pakistan, West Bengal, Assam, Nagaland, Manipur, Tripura, Sikkim and Bhutan.

*“The separatists are counting on USA and other western powers to give them necessary assistance. They are confident that these powers would be interested in establishing an independent state in “Southeast Asia” which could help to normalise conditions there and which could provide shield against the Chinese aggression”.*

The above fact shows the extent and depth of the interest and involvement of the western world in Indian subcontinent. As mentioned earlier this should give enough evidence and proof that while China has provided all the military, material and financial support to insurgents from Nagaland, Manipur including training, why the senior leadership of Naga insurgents was based and sheltered in Britain and other parts of Europe. It is surprising and shocking that all the self-appointed experts, analysts and pundits based in Delhi failed to identify the undercurrents, strategic interests and designs of western powers and read between the lines and also the writings on the walls. Unfortunately the same situation continues even today (January 2015). Nation suffers!!

## Attempts To Balkanise India

Another example: United States International Communication Agency circular issued in 1979. It was part of the study project Brahmaputra. Special research cell was formulated in George Washington University with approval of US State Department. The research project was to study and research in northeast India including Sikkim and Bhutan, with a view to:

*“Throw light on the public opinion in the region to establish, in what measures the present status of these states remain acceptable, or whether there are indications that the formation of a new independent state is a current problem”.*

Here again Indian leadership, intelligence agencies, think tanks, experts failed to study, analyse and infer the implications of such studies, research conducted by western countries and organisations during Cold War. Our nation continued to suffer heavy cost.

Yet another example is the philosophy and thought process of the rulers of Pakistan. The Prime Minister of Pakistan Zulfikar Ali Bhutto had very clearly and unambiguously stated that: *“It would be wrong to think that Kashmir is the only dispute that divides India and Pakistan, though undoubtedly the most significant. One at least is nearly as important as the Kashmir dispute, is that of Assam and some districts of India adjacent to East Pakistan”.*



It is to be remembered that Nagaland, Mizoram, Meghalaya have been carved out of Assam only. Tripura is adjacent to East Pakistan (Bangladesh). Why did we as a nation fail to grasp the seriousness of such policy formulations and statements? It should not be surprising as to why Pakistan is directly and indirectly supporting and sustaining insurgency in northeast and Kashmir. It should not be surprising as to why recent statement of AlQaeda chief about the jihad in India specially in Kashmir, Gujarat, Assam, Bangladesh and Myanmar. Insurgents and terrorist leadership are years ahead, unlike government mechanism and intelligence agencies sustain themselves on day to day basis. Should we be surprised with the recent statement and admission of the President of America Obama that “America was taken by total surprise with sudden emergence and spread of ISIS in Syria and Iraq”. American agencies failed totally to anticipate and predict the capacity, capability and ability of ISIS. The nation so called super power, which failed in Afghanistan, Iraq, Middle East, North Africa and preventing 9/11 on their own soil is being considered as a role model by Indian security establishment, intelligence agencies, politicians, governing mechanism and self-styled experts. Aim, objectives, methodology of the insurgents, terrorists, is always to:

- Infiltrate at all levels of government, into various administrative agencies.
- Render law and order enforcement ineffective and impotent by demoralisation, subversion and terrorism (It must be noted that terrorism is also part of insurgency process).
- Destroy faith in the government's ability to maintain law and order, protection and security of people, with a view to erode the credibility of the government.
- Establish and expand the popular base among the population and eventually establish and run a parallel government. Insurgents all over the northeast achieved these objectives during initial phases of insurgency. Thanks to the sacrifices of Indian Army, paramilitary forces and state police, the spread has been arrested.

## Army Has Saved India

Despite the shock of 1962 War, the Indian Army adapted itself to combat insurgency. The credit goes to few dedicated officers with flexible attitude, who quickly reoriented the troops to combat insurgency. The division launched sustained and relentless counter insurgency campaign and contained insurgency in Nagaland. The 57 mountain division which was raised later for conventional warfare, reoriented itself to combating insurgency. This division played a crucial role in combating insurgency in Mizoram and Tripura. Today both states continue to be peaceful, stable and prosperous in northeast. Assam Rifles and even Manipur Rifles despite working under the control of Ministry of Home Affairs have adapted operational,

training and administrative ethos of Indian Army resulting in operational effectiveness and efficiency. One of the main reasons of the operational effectiveness is that Indian Army provides the officers leadership at all levels from a company commander (Major) to Director General (Lt Gen). Assam Rifles of India could be easily termed as one of the best counter insurgency forces not only in Asia but in the world. Despite the sustained and effective efforts of the vested interests, the bureaucracy, ably supported by political leadership to “ruin” this operationally effective organisation systematically by introducing and inducting “police culture” in this organisation.

## Insurgency Philosophy

Despite the absence of the government of India's counter insurgency philosophy and doctrine, the Indian Army has formulated counter insurgency and counter terrorism doctrine, which could be termed as the best, appropriate and effective in the world. With due respect to the armed forces of USA, Indian Army's counter insurgency doctrine has been the most successful. It is more suitable and practical in the world today. Indian Army, Assam Rifles and state police of northeastern region have ensured that insurgency is contained within northeast and is not allowed to flow out and spread to adjoining states and other parts of India. Unlike US Army and NATO forces which follow the doctrine and strategy of “shock and awe” in

combating terrorism and insurgency through barrage of *Tomahawk* missiles, precision guided bombs, cruise missiles and waves of carrier-borne and land based jets, bomber aircraft, drones and the entire destructive mechanism in Vietnam, Afghanistan, Iraq, Yemen, Somalia and tribal areas of Pakistan and elsewhere too, Indian Army has imposed on itself a golden rule of “use of minimum force”. No other Army in the world follows the principle of “use of minimum force”. Indian Army firmly believes that “if you kill one innocent person ten more insurgents / terrorists will be added”. Indian Army does not even use automatic weapons. One feels proud to state in all humility that Indian Army is the only Army in the world which has arrested the growth of insurgency in second stage itself. Despite use of disproportionate and undesirable destructive power all western armies including American Army had to execute a withdrawal without degrading the combat potential of insurgents and eliminating insurgency. Indian Army's counter



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insurgency doctrine also ensures no collateral damage and avoidance of innocent civil casualties.

Indian Army's first priority is always to degrade the combat potential of insurgents / terrorists. They are forced to operate in small numbers, with no capacity or capability to launch major offensive as witnessed in Vietnam, Afghanistan, Iraq or anywhere else. This is one of the basic causes of success of Indian Army. Yet another reason for success is that the higher leadership is forced to move out of India and seek shelter, refuge and sanctuaries outside India thus break the link between the leadership and rank and file of insurgents.

Civic action programmes executed with a view to win the hearts and minds of local population of insurgents, infected areas is a unique mechanism initiated by Indian Army. The basic aim being to solve day to day problems of local population, improve basic infrastructure, provide medical help, education, vocational training, means of purposeful living through self-employment and so on. Not many armies in the world adopt the philosophy of "winning the hearts and minds" of people instead they adopt the doctrine of "destroy, degrade, shock and awe". "Insurgency terrorism cannot be solved or eliminated by dropping bombs on the insurgents and people of the area. The military powers and military leaders experienced only in conventional warfare must learn, reorientate and adapt their thinking to this new challenge or accept defeat and be defeated". Indian Army firmly believes that the *Sine Qua Non* of victory of modern counter insurgency, counter guerrilla warfare and counter terrorism is the unconditional support of local population. Operations SADBHAVNA, SAHYOG, SAHAYTA and SAHWAS are the best successful examples of winning the hearts and minds. Indian Army firmly believes that ideologies, concepts, strategies and techniques of response in counter insurgency and counter terrorism are always articulated in a manner consistent with the people of the area of operations. Indian Army does not fear to put "foot on the ground". Western countries including USA have not been able to comprehend and digest the fact that unless you are in constant contact with people and in context with insurgent rank and file you cannot degrade the combat potential of the insurgents and reduce the effectiveness of the higher leadership of insurgent / terrorist organisations.

Indian Army has formulated "Golden rules for conduct" of every one with a view to reduce the suffering of the people. The broad concept of counter insurgency operations covers:

- Win confidence of local people by destroying and arresting the destructive potential of insurgents / terrorists.
- Establish sound intelligence base among local population.
- Full cooperation with local administration and police.
- Protect population against insurgent activities.
- Intercept insurgent movement within specified area and across the border.


- Prevent forcible collection of money, funds and recruitment.
- Identify collaborations.
- Use minimum force.
- Compassion and respect for human dignity.
- Motivation of youngsters of the age group of 10-15 years towards peaceful and purposeful existence, thereby prevent flow of youth towards insurgency / terrorism.

All insurgencies and terrorist movements need a "convincing cause" which is accepted by a majority of people of the area of interest / conflict, which can be exploited by a charismatic leader to build a movement. Only a strong and "widely accepted cause" can mobilise people to confront the state or even "super power". Indian Army's first priority is always to establish a 'counter insurgency grid' and deny the cause to the people and insurgents to fight for. People will not support insurgents if the cause of conflict is removed.

Indian Army established "Counter Insurgency and Jungle Warfare School" one of the best training institutions in the world to impart practical training in counter insurgency and counter terrorism. I had the honour to be associated right from the raising of this unique training institution since 1967 and thereafter on different instructional assignments upto 1989. CIJW School formulated and propagated the counter insurgency doctrine "Iron fist in a velvet glove", "firm behaviour with kind heart" and winning hearts and minds of the people. CIJW School specialised in imparting practical training rather than bookish and theoretical knowledge based on borrowed wisdom.

Indian Army has been successful in combating insurgency and bringing it down and degrading it to "manageable levels" as advocated by successive central governments and Ministry of Home Affairs. Total "elimination" and "eradication" of insurgency can be achieved through political process as has been the case in states of Mizoram and Tripura. The achievements of Indian Army are:

- It has not allowed any part of India to secede or disintegrate from India, through the "power of gun". It will not allow it in future also. But disintegration results due to "mindset" of people against which no weapon can be used. This has to be achieved through political process and governing mechanism.
- Indian Army has done so without alienating people, on the contrary by winning them over psychologically and getting them to feel part of nation building process.
- It has done so without resorting to use of excessive force and the concept of shock and awe.

One feels proud to state that Indian Army's counter insurgency and counter terrorism doctrine has matured over the years, proved effective and successful. Such doctrine needs the approval of higher civil and political leadership. It is hoped that the new leadership will formulate a national doctrine to deal with insurgency, terrorism, naxalism, Maoism and even communalism. 

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Sh. Pawan Agrawal  
Publisher and CEO  
Defence and Security Alert

It gives me immense pleasure to forward this note for Defence and Security Alert (DSA), a magazine committed to Defense and Security trends worldwide. Being a regular reader, I found this magazine to be an informative, focused and unique monthly journal in terms of security related issues and inventions. Recently, the DSA celebrated their 5<sup>th</sup> Anniversary. The periodical takes care of various strategic affairs worldwide and keep the readers well-versed with changing global security scenario which is praiseworthy.

The photographs, graphics, layout and design of the Magazine are exemplary. The cover page of the Magazine remains distinctive and eye-catching always.

The magazine also keeps a close eye on improved technologies in defense and security related manufactures and provides in depth knowledge of various equipments and gadgets etc. It publishes matters related to modernization of Forces across the globe. It also focuses on various research based articles on security establishments throughout the world.

The Magazine- Both in form and in substance is always very appealing. Apart from print form, the Magazine is also available as online edition which raises the readership manifold.

I wish the DSA a glorious future ahead. All the best.

(Subhas Goswami)



# SYNERGISING CIVIL-MILITARY RELATIONS

The inadequacies in our higher direction for war and not having the desired synergy in our civil-military relations (CMR) has often led to India not translating its military victories and strategic opportunities into permanent gains for the nation, eg the unilateral cessation of operations against Pakistan in 1948, signing of the unfair Tashkent Agreement after the 1965 operations where India had to return some hard won tactical gains or in 1971 when India had resoundingly defeated Pakistan and yet India did not obtain some tangible benefits for itself.

*"India has pursued the policy of civilian control to a point where the military have almost no input at all in the formulation of higher defence policy and national strategy."*

— George Tanham, US political scientist and strategic thinker

*"Regardless of how superior the military view of a situation may be, the civilian view trumps it. In other words, civilians have a right to be wrong."*

— Peter D Feaver

The synergetic application of all the constituents which aggregate to Comprehensive National Power of a nation are a critical imperative which can only be ignored at a nation's peril. In today's increasingly troubled world with a markedly deteriorating security environment in its neighbourhood, India confronts many formidable and diverse challenges to its security, economic growth and political stability. Thus for India to rightfully occupy its 'seat on the high table', its civil and military authority has to act with harmonious effectiveness. Regrettably, a chasm exists between the civil authority represented by the political leadership and more so, India's bureaucracy on one hand, with India's uniformed fraternity – primarily its Armed Forces.

Civil-military relations (CMR) of a nation, in its general and wider interpretation, is the relationship between its civil society and its military organisations which exist to protect it. However, for discussion, specifically all across the strategic spectrum and this article, CMR stands for relationship, often vexed, between a nation's civil authority and its Armed Forces. In India, its Armed Forces are undeniably the most respected institution of the state drawing appreciation and affection from all walks of India's civil society. However, the relationship between the civil authority, particularly its powerful and self-serving bureaucracy and the military authority borders on dysfunctionality and distrust which is detrimental to the security environment of the nation.

## India And CMR

Years of mistrust between the civil bureaucracy and the Indian Armed Forces have led to alarmingly depleting force levels and consequently the capability to wage successfully, if required a two and a half front war (China, Pakistan and internal security – individually or collectively), tardy development of infrastructure in regions astride the troubled undelineated India-China borders, systematic and unacceptable downgradation of the Armed Forces hierarchy *vis-à-vis* their civilian counterparts, inadequate higher defence management (HDM) structures in India and most importantly, the absence of conceiving and implementing a National Security Doctrine and a National Strategy. That our security challenges also emanate from two likely adversaries, who are both nuclear powers, should be a cause of concern for us to speedily streamline and synergise our macro-management at the apex security levels.

The Indian Armed Forces fully comprehend and enthusiastically subscribe to the hallowed democratic ideals and other values of the nation enshrined in our sacred Constitution. Since independence, our Armed Forces have never ever even remotely thought of crossing the line of constitutional propriety notwithstanding winds of different hues in nations across Asia especially in our neighbourhood, namely in Pakistan, Bangladesh or Myanmar where their respective armies have often taken over governance. It is worth noting that even in June 1975, when a national emergency was promulgated and stayed on for 2 years, the Indian Armed Forces remained entirely neutral.

**In a democracy, civil control over its military is a basic tenet but this control means of the elected government of the day and not of a manipulated bureaucracy! Fortunately, India's elected representatives have always acknowledged this important nuance of our CMR, but yet have not displayed, the necessary political will to rid CMR of this malaise which ultimately affects India's security preparedness and overall growth.** The inadequacies in our higher direction for war and not having the desired synergy in our CMR has often led to India not translating its military victories and strategic opportunities into permanent gains for the nation, eg the unilateral cessation of operations against Pakistan in 1948, signing of the unfair Tashkent Agreement after the 1965 operations where India had to return some hard won tactical gains or in 1971 when India had resoundingly defeated Pakistan and yet India did not obtain some tangible benefits for itself. India, despite its awesome size and resources, comes out as a strategically reactive player. All those in India, no matter of which dispensation, who appear satisfied with the current state of CMR and our higher defence management structures and advocate *status quo* are indeed pursuing a myopic approach to India's security.

## Concept Of CMR

It is not the assigned intent of this article to delve into the theoretical or philosophical paradoxes or framework of CMR worldwide especially in the democracies. Needless to mention, however, that even in established and leading democracies of the world, like US and UK who have fought world wars and undertaken countless combat engagements across the globe too have had their share of problems in CMR within. The pioneering study in CMR has been undertaken by Samuel Huntington whose seminal book *The Soldier and the State* addresses various nuances of CMR in the US and the West. He has expounded the theories of 'Objective Civilian Control' being preferable to 'Subjective Civilian Control' and 'Assertive Civilian Control'. Another scholar, Michael Desch has advocated that the military must have substantial autonomy in the military, technical and operational realms but be totally subordinated to civilian control in matters of grand strategy and whether or when to go to war. Another scholar, Rebecca Schiff has expounded the 'Concordance' and 'Fusionism' models which gets the military of a nation to cooperate with the civil authority through healthy dialogue and sharing of responsibilities.

## Political And Military Leadership

A study of the *inter se* relationships between world statesmen and their Generals during world wars or major campaigns is indeed fascinating as also which throws lessons both for the political leadership of any country and its military leaders. Wartime statesmen like Lincoln, Clemenceau, Roosevelt, Churchill and Ben Gurion all dealt with brilliant but at times difficult and outspoken Generals in their time. Nevertheless, the common streak which ran among all these outstanding political leaders was that they never arrogated to themselves the mask of infallibility and in concert with their Generals, ultimately won for their nations historical victories. However, the spats between an exceptional military leader Gen Douglas MacArthur and US President Harry Truman during the Korean War and recently, in the prosecution of the Afghanistan operations between President Barack Obama and his Central Command Chief Gen Stanley McChrystal are part of military folklore. Yet useful lessons in CMR from these interactions can be profitably learnt by both civil and military professionals.



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(RETD)**

The writer is a distinguished soldier having served in all theatres of operations in his 41 years of service. Has been Chief of Staff of a Corps HQ in Jammu and Kashmir and then as GOC 11 Corps responsible for the defence of Punjab. He was especially selected by the government of India to raise the Defence Intelligence Agency after the Kargil War. After retirement he writes and lectures on security issues. He is widely known to passionately espouse the cause of jointness in the Indian Armed Forces. As the first DG, DIA, many intelligence initiatives including abroad were taken by him.



**Sam-Indira Synergy**

Sadly in India, we have never had a very healthy interface between the political and military leadership except in 1971 between the redoubtable PM Indira Gandhi and her equally frank Army Chief, Gen Sam Manekshaw whose professional advice the PM accepted to delay the commencement of operations into East Pakistan and consequently, India won her finest battle victory in its history. A glaring drawback in our CMR has been during the prosecution of the 1947-48 Kashmir operations when military advice was not even taken prior to halting operations against the Pakistani marauders and later, the ill-fated 1962 War against China – in both these events the nation suffered grievously.

**Chinese Situation**

In authoritarian China, asserting itself, both economically and militarily in Asia and the world, a unique relationship currently exists between the larger-than-life Communist Party, the dominant Central Military Commission and the powerful People's Liberation Army. **The latter, according to most reports, is gradually becoming increasingly influential in the affairs of its nation and the coming years appear to be interesting and perhaps exacting times for China!**

**Constitutional Responsibilities**

An anomaly appears which needs to be analysed and rectified as opined by many security analysts in this country.

The conduct of business by the government of India is governed by two documents, namely the "GoI Allocation of Business Rules (AoB Rules)" and the "GoI Transaction of Business Rules (ToB Rules)" besides a "Manual of Office procedures" which imparts clarifications and elaboration as required. **Surprisingly, the Defence Secretary in these Business Rules has been made responsible for "the Defence of India and every part thereof." The Service Chiefs are not mentioned anywhere in these Business Rules! Thus the Defence Secretary acts as the principal Defence Adviser to the Raksha Mantri and thus to the Union Cabinet. The three Service Chiefs, through the toothless arrangement of the in-rotation Chairman Chiefs of Staff Committee, remain miles away from these security policies formulation in our country and the Defence Secretary – usually a generalist bureaucrat – invariably functions like a de facto Chief of the Defence Staff! This illogical arrangement needs a fresh look by the GoI.**

It is high time that the GoI, while addressing the above stated malaise in our higher defence management, also seriously looks at the issue of the *locus standi* of the Service Chiefs in our hierarchy, the gradual and deliberate downgradation of their status and that of the other 2- and 3- star Generals (and equivalents in the other Services) with their civilian counterparts. In addition, operational and equipment proposals



which emanate from the Services HQ have no business to be vetted by junior bureaucrats of the MoD / MHA apart from essential financial scrutiny which is to be carried out by the Financial Advisers posted to the MoD or by the Ministry of Finance as per existing rules.

**Defence Reforms**

The state of CMR in nations, is inextricably linked to the national security architecture as obtaining in that particular country. A responsive security set-up contributes to maintaining the right civil-military balance for ensuring viable security preparedness of the nation. India has had a few initiatives taken to review our Defence set-up by some governments since 1947, eg the Maj Gen Himmatsinhji Report in the early fifties, the Henderson Brookes Committee Report after the 1962 debacle, the Arun Singh Report in the early 90s besides the all-encompassing and important Kargil Review Committee (KRC) in 1999 and finally the Naresh Chandra Committee Report on Defence Reforms in 2011.

In the wake of the Kargil conflict in 1999, the Vajpayee government at that time, set up the KRC under the chairmanship of the highly respected strategic analyst and a former Defence Secretary, late Subrahmanyam. This Committee which did a commendable job speedily and succinctly observed that, despite the nation having fought five wars, faced many insurgencies with some still continuing, confronting externally abetted terrorism, coping with nuclear armed adversarial neighbours, containing Left Wing Extremism (LWE) and now subjected to a "Revolution in Military Affairs" as a consequence of increasing technology across the world,

India's security structures and its higher defence management remained antiquated and out of tune to face the security challenges of the 21st century.

The KRC Report was submitted to the government which immediately set up a Group of Ministers (GoM) committee to scrutinise the KRC findings. This led to the GoM setting up four Task Forces in the fields of Intelligence, Border Management, Internal Security and Higher Defence Management to carry out a thorough analysis of the KRC recommendations in various areas of national concern. In February 2001, the GoM, based on the analysis of its Task Forces, submitted its final report making the following scathing comments (only a few relevant ones being reproduced):

- "Armed Forces headquarters are outside the apex governmental structure ... led to many negative results ... the Services Headquarters be located within the Government."
- "... a marked difference in the perception of civil and military officials regarding their respective roles and functions ... a visible lack of synchronisation among and between the three departments in the MoD."
- "The functioning of the Chiefs of Staff Committee (COSC) has to date revealed serious weaknesses in its ability to provide single point military advice to the government and resolve inter-Services ... issues adequately." Later in the Report, the KRC further elaborates that "the COSC has not been effective in fulfilling its mandate. " The KRC goes on to recommend that the Chief of the Defence Staff (CDS) may be a 4-star officer, drawn from the three Services in rotation ... function as the principal

military adviser to the Defence Minister ..."

The KRC was severe in its indictment of the current systems in place and concluded that "most opposition to change comes from inadequate knowledge of the national security decision-making process elsewhere in the world ... the *status quo* is often mistakenly defended as embodying civilian supremacy over the armed forces which is not the real issue. In fact, locating the Service headquarters in the Government will further enhance civilian supremacy."

The Naresh Chandra Committee, was set up by the previous Manmohan Singh government in July 2011 to re-visit and thence recommend Defence Reforms for India. It also made certain valid suggestions regarding changes to the existing security structures in the nation. This Committee recommended the creation, albeit watered down, of the post of a permanent COSC, but to remain a four-star General (or equivalent from the other two Services) besides creating 'theatre commands' to ensure better operational capabilities based on integration and jointness among the forces which is sadly lacking in the desired degree today. Both this Committee and the KRC had rightly commented upon the desired levels of integration within the Indian Armed Forces. It is important to note that it took even the US to promulgate the Goldwater-Nichols Act in 1986 after over four decades of experimentation in their country to ensure adequate integration within their Armed Forces. Sadly, none of the Naresh Chandra Committee's recommendations could be implemented in our nation, owing to lack of political consensus ... importantly lack of will of our political leadership and the inexplicable obduracy of our bureaucrats.

**True Jointness**

It is nobody's case, especially of its Armed Forces, that in democratic India, its Armed Forces are given any overriding special status or powers but the government has to ensure the correct balance in civil-military relations as suggested by the various and predominantly civilian heavy committees on synergising India's defence preparedness.

The changing complexities of modern warfare demand far greater integration of the political and military instruments of a nation which will only be possible if the civil and military echelons of a nation work in seamless integration. India, as an emerging global player has all the potential to rise to its pre-ordained status in the comity of nations – but to achieve that, India has to accord to its military the rightful place in the national hierarchy and a say in the formulation of India's Grand Strategy. The military, equally, must think and act with true 'jointness' embellished with a tri-Service approach in the larger interest of the nation. **DSA**



**NITIN A GOKHALE**  
The writer is a veteran journalist, author and media trainer specialising in security and strategic affairs. He is the Executive Editor of **DSA** magazine

# GEOSTRATEGIC CALCULUS

If 2014 was the year of change in India, 2015 will have to be the period of consolidation for the country's security and strategic policies. Prime Minister Narendra Modi stormed Delhi and subsequently the international arena in 2014 propelling India once again to the centre stage in world affairs. For anyone who expected radical – and dare I say drastic – changes to India's military and diplomatic policies after Modi took office, his initial months may seem mildly disappointing. What the Prime Minister has however done, is restore the authority of his office and bring in a sense of decisiveness in governance that was sorely missing in UPA II.

Neighbours and the immediate neighbourhood thankfully are central to India's new regime. China is keen to take its relations with India on a much higher plane than its current status. Modi, a pro-business leader, too is clear that India must take advantage of Chinese investment and expertise in infrastructure development. The Prime Minister is pragmatic enough to understand that India has a lot to catch up on with China, both militarily and economically and therefore it is wise to keep engaging with China on economic matters even as India seeks to build its military strength to a level that can act as a deterrent against any Chinese military provocation.

Engaging big powers apart, the Prime Minister's diplomatic outreach to smaller neighbours in South Asia also signals a welcome change from the recent past. That he chose to travel to Bhutan, perhaps India's closest ally, for his first visit outside India, was an indication that the Modi government will

try and carry the immediate neighbourhood along since he believes a stable periphery is a must for India to progress. His trip to Nepal – the first bilateral visit by an Indian Prime Minister in 17 years – was aimed at repairing the fractured relationship with a country that remains an important part of India's geostrategic calculus.

The diplomatic initiatives apart, to me, the seven months of the new government have been marked by a series of small but significant steps in boosting the morale of the neglected armed forces. Modi has begun meeting the three service chiefs one-on-one, once a month, a practice that gives the armed forces an opportunity to directly keep the Prime Minister apprised of the issues that need his immediate attention. Of course, restoring pay parity of military officers with their civilian counterparts and full implementation of the One Rank One Pension principle remain pending, but both should be done soon.

His new Defence Minister Manohar Parrikar has a major task on his hands too. As a first step, Parrikar will have to overhaul the civil-military relationship in the country. The post-1947 history is replete with episodes that suggest a constant state of tension between the 'generalist' bureaucracy and the 'specialist' military leaders, with the political executive watching and sometimes encouraging the bureaucracy to keep the military under control. Parrikar will have to crack the whip to get the bureaucrats to work on the advice of the military and not allow them to be unilateral in their approach. **DSA**

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# PERSPECTIVE

## BATTLEFIELD MIND

A battlefield mind has a warrior mindset: to achieve the goals and accomplish the mission without paranoia but with preparation and a premeditated mind, which is also the key to survival in hostile environments.



**B**attlefield mind is the most significant ingredient of a high functioning-high capability human design. This mind carries with it a warrior ethos and is not limited to military but this ethos should be cultivated in every realm, every community, organisation, school and also within a family unit. The positives, which are gained with this kind of mind are numerous!

### Conditioning The Mind

In this perspective piece on which a monograph can be easily written, I would like to focus on the mindset required to function in an atmosphere of asymmetric warfare, this warfare does depend on advanced technology, however the human element is still paramount to the success of any operation. The warrior ethos in combat is part the ferocity of the mind, part innate self-belief in your own capabilities, skills and motivation, part specialised guided trainings and truckload of will to go against all odds.

Performance lethality comes with a coherent mind, compassion for humanity and dedicated belief for the cause you are fighting for. Gilbert Keith Chesterton, (1874-1936), one of the most prolific writers of all times said "The true soldier fights not because he hates what is in front of him, but because he loves what is behind him."

His quote is true when seen with either a philosophical lens or a scientific lens. Hate and anger cause build-up of toxins in the mind and body which not only harm the physical state but lead to poor decision-making skills, lack of situational awareness, fear, inaccurate assessment of events hence

leading to ill-efficient performance.

At Impact-Response organisation we believe in training the mind along with physical trainings, to make the human design of a high definition. Sure, technology can provide us various data but it is the human mind which reacts, acts and counteracts. We believe in developing the strengths of the human factor and compensating for our individual limitations through high quality training that then equips all operators with the superior skills necessary to accomplish their assigned missions. The precursor for excellence is the mindset, a trained toughened mind has the ability to overcome any kind of adversities without losing a beat. A battlefield mind is instilled with a higher mission.

A battlefield mind has a warrior mindset: to achieve the goals and accomplish the mission without paranoia but with preparation and a premeditated mind, which is also the key to survival in hostile environments.

**Mental Agility and Toughness is:** Being resilient, having intense concentration, self-confidence and self-belief towards achieving the goal. This agility sharpens the mind for anticipating consequences and is accompanied by having a sound judgment, innovativeness, inter-personal tact, flexibility to swarm, shift gears accordingly and well-versed domain knowledge.

### Elements Of Self-confidence

The term battlefield mind can be of any performer, who employs certain strategies to keep calm in dire situations, this means that the mind is trained to a level where being calm brings clear perception of the situation, there is no fear, anger or lack of confidence, nothing interferes with performance, the person has high level of

self-confidence, has heightened concentration, motivation, commitment, leadership abilities and has the know-how of self-regulation of arousal. This mindset draws upon inner wisdom to discover greater level of self-confidence and trust in their own abilities and reflect that trust amongst other players of the team.

Be it in Armed Forces, Police Service, sports, musicians, children in school, in any category where an individual wants to perform with excellence and efficiency then that requires a mindset that sustains a point of mental focus where there is no tension, have a greater capacity to perceive things in facts, understand what needs to be done and accept change without losing composure. It is a state of relaxed alertness, condition yellow as termed by late Col Jeff Cooper (Cooper colour codes).

To induce a state of relaxed alertness is away to stress reduction especially in roles where a certain degree of vigilance is required. Combat mindset must always be in this state, because this state keeps you prepared and your mindset can shift (mental agility) with speed and accuracy to "engage" if the situation calls for.

Scientifically proven facts have demonstrated that alpha waves which are associated with relaxed alertness generate problem-solving, creativity, intuition, peak performance and enhanced learning in the individual. The brain also becomes better at performance imagery, which assists in self-confidence and performance. Brain of creative people can generate large amounts of alpha waves when they are faced with problems and a crisis becomes a situation to take action to solve without the individual going into stress-shock. (For more scientific facts and understanding you can read them on these links:

<http://www.biocybernaut.com/alpha-brain-waves/>  
<http://www.omharmonics.com/blog/alpha-brain-waves/>

See more at:  
<http://www.omharmonics.com/blog/alpha-brain-waves/#sthash=NSABhNCS.dpuf>

Most of the knowledge, available on mental preparation comes from the field of sport psychology and performance psychology.

Our trainings start with the mind, this mindset starts with an intent: The strength of an action is directly proportional to the strength of the intention that generates it. Intentional awareness is:

- To be prepared to expect the unexpected
- Have a sound mission-based philosophy
- A warrior mindset

The importance that we place on developing mental factors and associate with performance, is due to a foresight, we want that the trainees develop

long-term mental habits, which specifically assists in dealing with unexpected situations when faced in real time.

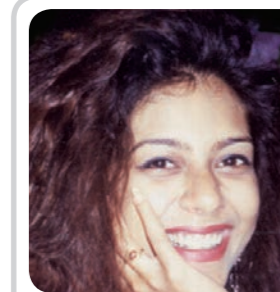
Reaction-action-counteraction initiates a natural sequence of situational awareness, intentional awareness and mental agility and toughness which can be further simplified to a) perception b) analysing and evaluation c) formulating a response and d) initiating a cognitive-emotive-motor response. When this sequence is disrupted due to stress overload or life threatening situations (research has shown that at 145 BPM this sequence is disrupted) either the reaction will be too much or too little, or freezing. To prevent "freezing" or over-reacting, mental toughness training is a must. The battlefield mind will use confidence and belief in personal abilities, which will automatically lower the working heart rate enhancing the mindset further to initiate an apt and positive performance for the situation at hand. Battlefield mind is also a key enabler of survival stress response.

Violence or any lethal situation requires an instantaneous response, feeling of surprise, fear and anger can slow reaction time but when one is mentally prepared then time is not wasted thus increasing survival odds.

Survival skills should be second nature so the response required is instinctive and smooth, mental rehearsals during trainings along with physical training (thought process links with muscle memory) together will make the individual well prepared.

The battlefield mindset trainings train the learner to apply methodical steps of intuition into a logical routine, an algorithm that the brain then uses for pattern recognition in the OE (Operational Environment).

We induce **Performance Lethality** which is: When you can instigate right emotion for performance, down-regulate those emotions that may create an obstacle in achieving your objective - you become a high definition of human design, manoeuvring calculatedly and in self-harmony and being an asset to your team members.

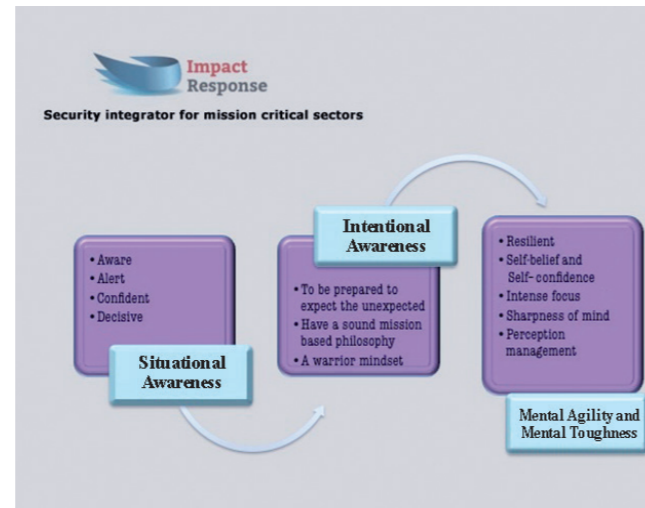
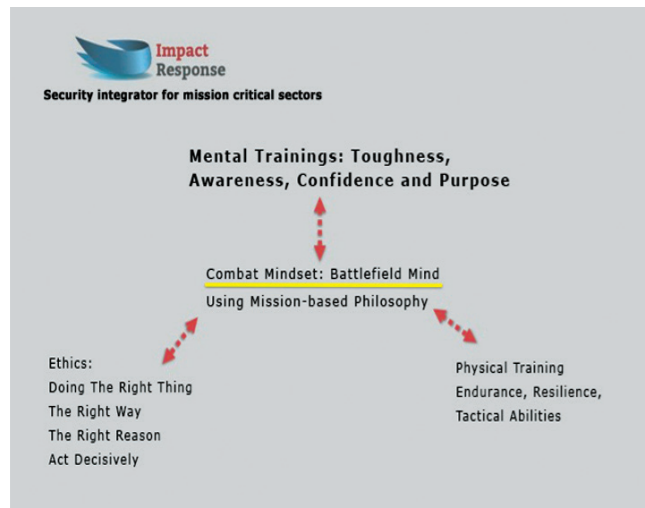


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**Scientifically proven facts have demonstrated that alpha waves which are associated with relaxed alertness generate problem-solving, creativity, intuition, peak performance and enhanced learning in the individual**

You operate as a **change catalyst:** Initiating or managing change flexibly throughout the situation.



Optimal arousal level, or OAL, is associated with peak performance in combat, the key is to develop the ability to flexibly modulate your psycho-physiological arousal level so that it is appropriate to the situation at hand. We must be trained to enter a flow state to achieve peak performance. This terminology is often used in the field of sports. The foundation of “flow state” was studied and written by Mihaly Csikszentmihalyi, he described it as a state of transcendent absorption, this is also known as “in the zone” by athletes, this state seems to push champion athletes beyond former limits.

- Intense and focused concentration on the activity
- Merging of action and awareness of the current task
- The temporary loss of ability to reflect
- A sense of personal control and ownership over the activity
- A distortion of subjective time
- The experience is internally rewarding in and of itself

When all six of these experiences are combined, then one is said to have achieved a state of flow.

Along with perception, attention is also affected by intentions and goals. Studies have suggested that there is simultaneous activation of parietal and frontal areas of the brain, as the intentions convert into action via decision-making is carried on potential coordinated motor plans, signaling fluidly “when”, “what”, “how” and “whether” of the action to be performed.

When Mihaly Csikszentmihalyi originally postulated flow theory, he stated the following three conditions must be met in order to achieve flow state:

- The individual must be involved in an activity with clear defined goals and a clear way to measure progress. Hence structuring trainings in a systematic way is critical for on the field performance.
- The activity must have feedback that is both clear and immediate. This condition when taken

into consideration while designing training works on a feedback loop, which allows the person to modulate and adjust performance so, the peak flow is maintained.

- The individual must have a balance between perceived challenges of the activity and his or her own perceived skills pertaining to the task.

This is the condition where belief in the trainings and self-belief comes into play, with self-efficacy reached the person is able to create a mindful, synchronised sequence of seeing, thinking and doing while continuously his / her awareness is filled with relevant information which needs to be dealt with.

**Battlefield Mind Engineers Resilience:** Resilient people are skilled at identifying and prioritising their strengths and values; they are of high endurance even having the ability to disassociate from discomfort, fatigue and pain. Resilient people are excellent problem solvers and perceive difficult situations as challenges to confront and master rather than as stresses to avoid, they challenge underlying assumptions and broaden the range of possible outcomes considered.

This “self-development” is compounded with leadership trainings as a component of lifelong learning, contributing to the professional’s competency profile and raises the organisation’s effectiveness of which they are a part.

To conclude this perspective write-up, I would like to end with a fact, that plethora of research in brain imagery has shown that efficient problem-solvers are those who are mentally agile, they can shift from baseline state to alert and can swiftly employ concrete details along with abstract picture, having controlled, continuous thinking, regulate attention and distraction to and perform with excellence. To use critical creative thinking and flexibly adjust and adapt to situations with physical balance and coordination comes by having a Battlefield Mind.



# ARMY AVIATION The Battle Winner

The Army Aviation needs to play a vastly enhanced role in land operations in the coming years. This is only possible if the arm grows both quantitatively and qualitatively. The gap between desire and reality is presently very large and is likely to narrow down provided the acquisitions and developments proceed as planned – the urgent need to replace the 200 odd ageing and obsolete *Cheetah* / *Chetak* fleet cannot be over emphasised. This delay is already impacting on operational capability in high altitude areas.

**A** rmy Aviation enables the field force commanders to exploit the vertical dimension, thereby contributing to the control and influence over the 21st century battlefield. Army Aviation assets are force multipliers that provide the commanders the capability to conduct operations across the entire range of military conflict. This versatility is the very essence of Army Aviation. In the future battlefield, Army Aviation will be in the forefront shaping the battle space by projecting the force, sustaining the force and delivering decisive combat power at critical times anywhere on the battlefield, the focus being to enhance ground mobility and exploit manoeuvre. To remain a decision arm and battle winner in future conflicts the Army Aviation needs to adapt to the rapidly evolving technologies and shape its future requirements in terms of force structure, modernisation and employment philosophy, especially its role in sub-conventional operations.

**Restricted Abilities**  
The operational diversities of the Indian Army coupled with a variety of terrain, extensive deployment in mountains / high altitude areas, active borders and involvement in sub-conventional operations require assets that are capable of operating across this environmental and operational spectrum. The present force structure of Indian Army Aviation Corps has wide gaps in its capabilities, which inhibit it from being able to perform the roles envisaged. The aviation arm of the Army today is nowhere near what has been projected in the Army’s perspective plans over the years and lacks some vital elements in its inventory, related to firepower, lift and logistics capability. It is indeed a far cry from the Aviation Corps of the other professional armies in the world like USA and UK and our neighbours China and Pakistan who operate and own all types of helicopters as well as certain number of fixed wing aircraft.



**LT GEN BS PAWAR  
PVSM, AVSM  
(RETD)**

The writer is an alumnus of Rashtriya Indian Military College and National Defence Academy and was commissioned into Artillery in June 1968. He fought the 1971 War as an Observation Post Officer in the Uri sector of Jammu and Kashmir. He was the Brigade Major of an Infantry and Mountain Brigade and a Director in the Perspective Planning Directorate. He commanded a Rocket Regiment and has the distinction of commanding the largest Artillery Brigade in Jammu and Kashmir. He was Maj Gen Artillery, Western Command during Operation Parakram. He also headed the Army Aviation Corps and was the Commandant, School of Artillery. He hung his boots in September 2008. A defence analyst, he writes for a number of defence journals and publications. He is a member of the Governing Council of the Rotary Wing Society of India.



More importantly the ownership issue has not been addressed in its entirety by the government, with critical assets like the medium and heavy lift helicopters still remaining with the Air Force, thereby denying the Army its legitimate tactical and logistical lift capability requirements. There is a need to bridge these gaps at the earliest to make Army Aviation a potent arm of the Indian Army, whereby its combat efficiency is enhanced to the maximum extent to make it the decisive arm of the future.

### Recent Developments

Despite its pivotal role in future conflicts recognised, the Army Aviation received a major setback recently with the government scrapping the long pending and operationally critical *Cheetah / Chetak* replacement project, involving the acquisition of 197 light reconnaissance and observation helicopters. The government has instead decided to go for a 'Buy and Make in India' project – which basically means the participation of the Indian defence industry in collaboration with foreign helicopter companies to manufacture this class of helicopters in India. Though a positive step towards Prime Minister's 'Make in India' policy and overall indigenisation thrust, this decision leaves the Army bereft of a suitable helicopter in this class and will no doubt affect the overall operational capability, especially in high altitude areas including the Siachen Glacier. This move is also likely to have a major impact on the flight safety of the *Cheetah / Chetak* fleet operations, as these helicopters are now 40 years old and obsolete, with their maintenance itself becoming a nightmare and the spares situation critical. The recent fatal accident of a *Cheetah* helicopter at the Bareilly Army Aviation Base resulting in the deaths of three officers, has indeed confirmed these fears. In fact, a number of rotary

wing aviation experts have expressed their concerns regarding the safe operations of these machines, with some even terming them as flying coffins – this certainly is a matter of grave concern and needs to be addressed on priority. Fielding of the *Cheetah* (a *Cheetah* helicopter with a more powerful engine) by HAL in limited numbers to cater to the criticality for high altitude operations, is an interim measure and needs to be treated as such.

### Apache Acquisition

Another important development (with positive overtones) is the government's approval for the Army to get its own fleet of 39 iconic Block III *Apache* attack helicopters for its Strike Corps. This decision will provide a major boost to the modernisation plans of the Army Aviation Corps and will go a long way in enhancing its combat potential. This is basically a follow up of the decision taken by the Ministry of Defence (MoD) in November 2012 on the long pending issue of ownership of attack helicopter assets in favour of the Army. While the Air Force was to retain the 22 *Apaches* currently being acquired, the Army was asked by the MoD to put across its own requirement of *Apache* attack helicopters for government approval. The Army accordingly had worked out the requirement for three squadrons of *Apache* attack helicopters for its three Strike Corps and the same was put up to the government for approval. The present government has approved the Army's requirement thereby setting into motion the acquisition process. Alongside this, the armed *Dhruv* helicopter christened *Rudra* (manufactured by HAL) has already commenced induction into the Army Aviation, with the first unit currently under raising. However there is a major drawback in these helicopters being inducted. They are without the crucial anti-tank missile which is the leading armament of an attack helicopter – this will degrade

**There is a major drawback in Rudra helicopters being inducted. They are without the crucial anti-tank missile which is the leading armament of an attack helicopter – this will degrade their combat potential**

their combat potential as the air to air missile is only a defensive weapon system in case of attack helicopters. The worrisome part however is that the development of the indigenous project of *Helina*, the air version of the *Nag* anti-tank missile is still nowhere in sight and efforts to import a suitable missile for the first few units of *Rudra* have not made any headway, despite trials being completed two years back. The MoD and the armed forces need to address this issue on priority for the non-availability of this missile will also impact on the operationalisation of the ongoing Light Combat Helicopter project.

### The Way Forward

The Indian Army Aviation has completed 28 years of its existence, but today remains purely a reconnaissance and observation force holding helicopters in its inventory which are obsolete and need urgent replacement. The Army Aviation has few helicopters to carry out a number of extremely specialised roles in the Tactical Battle Area (TBA). The present Army Aviation assets are inadequate for the size of the Indian Army and the tasks it is required to perform – its expansion therefore is imperative. While the induction of the light utility helicopter (ALH), is progressing satisfactorily, its low serviceability and high accident rate is a serious cause of concern and needs to be addressed by Hindustan Aeronautics Limited (HAL) on priority. This is an area requiring serious attention by the Army Aviation, as HAL is currently involved in the development of a number of helicopter projects for the future, like the Light Utility Helicopter (3 ton class) and the Light Combat Helicopter capable of operating at high altitudes – HAL must incorporate in them the developing future helicopter technologies. Along with its growth and modernisation, the Army Aviation also needs to address the important issues of cadre management, organisational changes and infrastructure development, which are presently in a state of flux.

To make the Army Aviation a potent force capable of supporting the Indian Army operations across the entire spectrum of conflict in the TBA it must grow and transform, having a mix of both, helicopters and fixed wing aircraft with helicopters available in larger numbers. At the same time a concerted effort needs to be made to overcome the various bottlenecks. The helicopter fleet should consist of attack and armed helicopters, heavy, medium and light utility (lift) helicopters and light observation helicopters. There also would be a need for specialised helicopters suitably modified for special operations. The aim is to make the force a capability based organisation rather than an equipment and inventory based structure, implying commensurate induction of man, machine, organisational and infrastructural requirements. New dimensions in tactical night operations as a direct result of sensor and avionics capabilities, with

the ability to operate at low levels at night will yield great dividends. Rapidly evolving technologies are already poised to offer new and improved capabilities to the aviation force – these must form part of future developments and acquisitions. There is therefore an urgent need to look at the broad structures and force levels that the Army Aviation should possess to make it a potent arm of the Indian Army whereby its combat efficiency is enhanced to the maximum extent.

There is also a need to evolve an appropriate employment philosophy for this future arm of decision and validate the same both in the plains and the mountains. Army Aviation needs to develop organisations that enhance aviation capabilities and are suitably tailored to meet the evolving operational requirements like the Aviation Brigades to provide proper command and control and ensure optimal utilisation of all diverse aviation assets located within the Corps. There is also a requirement to build suitable infrastructure and have it in place to absorb the new equipment and organisations. Support services like airfields, air traffic control, meteorological equipment, maintenance equipment, would also need upgrading and refurbishing. Lastly the most important facet, the training facilities for the training of aircrew and ground crew need modernisation. The importance of simulators for this purpose cannot be over emphasised. Keeping in mind the vast expansion plans of the Army Aviation in the coming years and induction of sophisticated state-of-the-art equipment, the simulators will be the way forward for future training methods as they are cost and time saving.

**To make the Army Aviation a potent force capable of supporting the Indian Army operations across the entire spectrum of conflict in the TBA it must grow and transform**

### Conclusion

The Army Aviation needs to play a vastly enhanced role in land operations in the coming years. This is only possible if the arm grows both quantitatively and qualitatively. The gap between desire and reality is presently very large and is likely to narrow down provided the acquisitions and developments proceed as planned – the urgent need to replace the 200 odd ageing and obsolete *Cheetah / Chetak* fleet cannot be over emphasised. This delay is already impacting on operational capability in high altitude areas.

For dominating the tactical battle space of the future, the Army must go beyond fielding light observation and light utility helicopters and the control of attack helicopters by proxy. Dramatic changes are required to make the arm more capable, lethal, sustainable and affordable with the aim to create a dedicated and operational Army Aviation Corps. The integration of all combat elements of the fighting force, including combat aviation resources, under the unified command of field force commander, trained, administered and employed in combat with common operational procedures and ethos, will lead to a greater degree of synergy at all levels. The Army Aviation is the arm of the future, a force multiplier which can tilt the balance in any future conflict. **DSA**

# HUMAN RESOURCE CHALLENGES FOR THE ARMY

In Army, the most important orders are given by word of mouth and men do not question these and lay down their lives on verbal orders. Therefore such 'Balidan' and 'Tyag' is not comparable. We need to ensure that both the leaders and the led are looked after with utmost sensitivity and due care.



**H**uman resource is the most important resource for any Army. If this resource is well managed then Army will be efficient, professional and highly motivated. If it's not managed properly, the effects could be disastrous for any nation. Therefore, this is one resource which needs to be planned for in advance and thereafter its induction, training, in-service management and post-retirement looking after till the final journey including that of the next-of-kin (NoK). It's an onerous task and therefore needs to be looked after with due sensitivity. The famous saying 'womb-to-tomb' is most apt in case of Army where we need to first select the right potential, groom it into an ideal soldier during recruit / pre-commission training, polish it and sustain the efficiency during in-service journey and thereafter ensure he remains a motivated resource as a veteran by looking after his welfare and ensuring a high degree of interaction.

The challenges with regards to managing the human resources are tremendous, some of the important ones being:

**Recruitment of the right potential:** This is the most critical aspect and needs a very elaborate and efficient machinery while there is no dearth of numbers wanting to join the Army both as other ranks (OR) as well as officer cadre, the emphasis is on selecting the right man.

**Recruit selection:** is a Herculean task. The Army on an average inducts approximately 70,000 recruits per year. It's a huge number and the single largest employment opportunity. The recruitment is done through a number of recruiting organisations spread across the length and breadth of the country. Considering the requirement of physical fitness for the Army, the initial selection is through physical tests and thereafter the written examination. This has stood the test of time and only needs little perfection to remove any loopholes for any incorrect practices. One aspect that needs to be looked into is to psychologically test and weed out candidates with such qualities that are totally non-trainable. This could be introduced after some pilot projects are launched and feedback obtained. Nothing should be done in a hurry as every small decision has a long term impact. It is said that Army is a 'Mini India', it's absolutely true. You have people from all parts of the country, all clans, colour and creed. There is absolutely no reservation yet it is representative of the whole country, a rare phenomenon. The vacancies are allotted on the basis of the RMP (Recruitable Male Population) ratio of each state. The RMP is taken as 10 per cent of the total population of each state. Presently the ratio is evolving and in 10 to 15 years the

required RMP factor will be achieved. There should be no short-term measures adopted to achieve it. It should be a gradual process. There should be no decision taken which causes turbulence in the system as the human resource is too sensitive a field to handle.

**Officer Selection:** There is presently approximately 20 to 22 per cent deficiency in the officer cadre. This is very critical deficiency and affects the cutting edge since the deficiencies are all in the lower service bracket (younger age profile) and in the units. The deficiencies therefore, become almost 50 per cent in the units which is not desirable. Another important aspect for the Army is that to maintain a younger operational profile, the base is very large whereas the requirement of officers in the higher ranks is low. This necessitates a peculiar cadre management approach. For a balanced cadre which is motivated you need officers who serve the Army for 10 to 14 years and thereafter leave. Since the requirement is in the early age group, you need to motivate the younger candidate for such a short service. This is the prime of life and joining a service which does not have a permanent security, therefore, is not attractive. The authorised officer strength of Army is approximately 40,000. There is shortage of 9,000 to 10,000 officers. For a balanced cadre in the Army 60 per cent officers need to be Short Service Commission (SSC) and only 40 per cent to be Permanent Commission (PC). That is precisely the reason why we have two academies (Officers Training Academy- OTA), one at Chennai and the second at Gaya, to cater for additional SSC officers. However, until this entry is made attractive and the government guarantees a respectable career

**Training leave of minimum one year with full pay to prepare these officers for second career in the last year of service. Lateral induction of such officers in to PMFs, civil aviation security and IPS and services like NDRF, TA, PSUs**



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for these officers post Army service, there is likely to be a shortfall in this entry. The officers passing out from Indian Military Academy get PC. This entry is by and large fully subscribed by a combination of a number of entries to include National Defence Academy (NDA), Direct Entry (DE), Army Cadet College (ACC),





University Entry Scheme (UES), Technical Graduate Course (TGC) and 10+2 Technical Entry Scheme (TES). The imbalance therefore between SSC and PC remains and it's going to adversely affect the cadre / profile resulting in stagnation, large number of suspended officers and higher age profile of the Army – a situation highly detrimental to the organisational efficiency. There is an imperative need for making the SSC attractive. The government must immediately take measures to ensure SSC is made attractive. Some of the measures recommended are:

- Payment of gratuity for each completed year of service, minimum two months' salary for service upto 10 years and 4 months' salary thereafter.
- Providing them Ex-Serviceman (ESM) status.
- Medical treatment for self, wife, children and parents post Army service.
- Professional Enhancement.
- The seniority of these officers must be retained.

This should not happen that these officers are put at the bottom of the seniority ladder and they are exploited to accept. It must be borne in mind that these SSC officers have given the prime of their youth for the country and nation and it is their duty to look after their well-being.

**Shifting Focus:** Presently, the intake from metros and big towns is reducing. The reasons could be many – better facilities, greater employment opportunities, softer lifestyle, better educational facilities etc. The old age customs of 'Princely State' and kings to send their children to the Army has also disappeared. We need to therefore, focus on rural and remote areas and small towns. The Army recruiting organisations need to create awareness about opportunities in armed forces, make some leadership related lectures to motivate the youth, the results will be astounding. There is no need to lower any standards; the nation's potential is immense. Training leave of minimum one year with full pay to prepare these officers for second career in the last year of service. Lateral induction of such officers in to PMFs, civil aviation security and IPS and services like NDRF, TA, PSUs.

- Pension at reduced rates after 10 years' service.
- Reservation in public and private sector for such officers including government jobs at centre and state both.

This is a major challenge for the decision-makers to ensure a viable cadre profile of the Army and therefore must be taken up as a priority.

**Skill development:** Their service training is the responsibility of the organisation. It must be accepted that Army is doing an excellent job of it.



They have a well laid out organisation, infrastructure, policies and a pool of excellent trainers. However, the aim of this article being to analyse the aspect of skill development for all ranks to prepare them for a second career. Presently a number of courses under the aegis of Directorate General Resettlement are being run. These courses have outlived their utility and presently the other ranks (ORs) opt for these to have a little break from unit routine closer to their home town. These courses do not serve any purpose. There is therefore, a need to totally restructure these courses.

First and foremost, we need to involve the industry to identify as to what their needs are, utilise their available infrastructure to include shop floors and trainers etc for the training. There is a need to create skill development clusters across the country based on industry locations like Pune, Nasik, Bangalore, Chennai, Hyderabad, Vizag etc All ranks below officer ranks must be given option for various skill development courses and based on their choice and the requirement of industry these courses be planned and conducted. Post training the individuals must get absorbed with the relevant industry.

During training period the individual be kept on supernumerary strength so that the unit gets the replacement and therefore combat effectiveness is not impacted. The costs of training are borne by the industry through skill development ministry and the administrative cost by the Army.

For officers, the training is planned through Adjutant General Branch (AG Br) in consultation with the industry and the environment. This training will only be required for the SSC officers

and later for suspended officers who want to leave and take up another career. Some foreign courses to include language training, and UN organisation training to include UNICEF, UNDP etc programmes. There is also a need to utilise the vast expertise of this highly motivated resource in government, PSUs, banks and NGOs. Some of the fields where this potential can be optimally utilised are:

- National Disaster Relief Force (NDRF)
- National Disaster Management Authority (NDMA)
- Central Paramilitary Force (CPMF)
- State Military Police / Anti-terrorist Force / Bomb Disposal Squads
- Railway Protection Force (RPF)
- Territorial Army (TA)

Since presently there is a talk of creating task force for Ganga Protection, it is recommended that this task force be created as Territorial Army for best results. Such task force for environment protection has already been created in the past with excellent results. Such TA battalion be created with 50 per cent ESM, 40 to 45 per cent from local areas and nucleus of 5 to 10 per cent be from regular Army. If we are really interested in Ganga rejuvenation, such task force will ensure no dirt is permitted in the holy Ganga, green plantation / beautification of banks and upkeep of ghats in addition to many other security / cleanliness related tasks. These battalions could be dual tasked and will always be available for any natural disaster like floods, earthquake etc. A beginning is required to be made in this aspect on priority. Such task forces could also be created based on similar composition for heritage protection of monuments and heritage sites.

**Personal Aspects:** The Army looks after this aspect in a perfect manner to a large extent. However, there is a need to further refine it. The pension-related grievances account for more than 70 to 75 per cent

of the total complaints. A large number of these grievances are perceptual; the individual feels he is not being correctly paid whereas the truth is otherwise. Hence, there is a need of awareness and compassion to explain to him the correct position. Some cases (almost 25 to 30 per cent) are genuine and therefore immediate action needs to be taken to rectify. The age old system of Rajya Sainik Boards and Zila Sainik Boards has proved to be totally ineffective. There is a need for total revamping of the system with clear-cut responsibilities, accountability, charter of duties and single channel of command and control. The Department of Ex Serviceman Welfare (DESW) at the MoD level has been ineffective in launching / looking after any of the welfare schemes. There is an imperative need for a surgical operation to review the complete structure. The DESW must be headed by an Army officer serving / retired. The organisation must be manned by serving / retired service personnel. Only an Army person can understand the problems being faced by a soldier and their families. It is only a Serviceman who can come with viable solution to their problem. In matter of Armed Forces, it's the heart which must be supreme and any decision taken must be a balanced view between the heart and head. The District Soldier Board and the Rajya Sainik Board must be answerable to local military authority (LMA) and the MoD. Putting them under the District Magistrate and state government has been a total disaster. Such organisations must be fully manned by ESM.

**Veterans' Commission:** With the population of approx 27 lakh pensioners and an additional 12 to 15 lakh veterans who are not drawing pension, it's a very sizable population. These are people who have given their life for the nation and its now the nation's turn to look after them. A constitutional body in the form of a veterans' commission is a necessity. The veterans' commission should have adequate members say 7 to 8 to look after the interest of veterans across the country. The charter could be either divided based on region (4 to 5 states with each member) or on subject basis. This is also an election promise of the present government and must be fulfilled on priority.

In conclusion, the management of human resources is an extremely critical aspect for the Army. The issue is so sensitive that it has to be seen through a different prism. Despite all modernisation of weapons and equipment the man behind these machines shall always remain the focus and will be the battle winning factor. These are people who sign their death warrants on commissioning / recruitment and lead men into battle. In Army, the most important orders are given by word of mouth and men do not question these and lay down their lives on verbal orders. Therefore such 'Balidan' and 'Tyag' is not comparable. We need to ensure that both the leaders and the led are looked after with utmost sensitivity and due care.



## EXCLUSIVE INTERVIEW WITH MC BANSAL DGOF and Chairman, Ordnance Factory Board



**D**GOF and Chairman, Ordnance Factory Board MC Bansal is a Mechanical Engineer from IIT, Roorkee and MBA in Financial Management. He belongs to 1976 batch of IOFS. He has a distinguished career graph at OFB working in various departments and capacities. He has visited many countries viz France, Austria, Russia, Sweden, Finland and Germany. He is recipient of prestigious 'Ayudh Ratna Award'. In this exclusive interview he shares his views and vision with DSA readers.

Indian Ordnance Factories are part of a large industrial setup under control of OFB which in turn reports to the Department of Defence Production, Ministry of Defence. It is a conglomerate of 41 factories, 9 Training Institutes, 3 Regional Marketing centres and 4 Regional Controllerates of safety. OFB is mandated to manufacture world-class products meeting the exacting specifications and quality parameters. Reliability in quality and delivery are very important for OFB. Ordnance Factories have always stood in support of Indian Armed Forces particularly ARMY in times of crises and peace. Rightly Ordnance Factories have been christened as Fourth Arm of Defence.

Despite a history of 213 years and impressive record of meeting military hardware and equipment needs of Army, Ordnance Factories are a vibrant and responsive organisation. Ordnance Factories today consider themselves a young Organisation as these factories have been constantly modernising and a drastic change has come in the product profile of the Ordnance Factories over the years. New product introductions have been planned keeping in view the



Dhanush 155 mm 45 calibre Gun

emerging requirements of Armed Forces, specially keeping in view the long-term perspective plan of the Army. Also after identifying the gaps in process technology, a focused plan has been made for the modernisation and technology induction in core competency areas of OFB which are ammunitions and explosives manufacturing, armoured vehicles and variants and large calibre weapon systems.

**Defence and Security Alert:** What are the key initiatives at OFB for turning it into a vibrant organisation as India's emerging military industrial complex?

**Ordnance Factory Board:** OFB has grown in stature with impressive technological capability for undertaking the latest sophisticated Land Systems Solutions. OFB is the single largest supplier to Indian Army and Ordnance Factories are also major suppliers of intermediate chemicals, warheads and propellants used in the Missile programmes and also to ISRO for advanced aluminium alloys used in the space programmes. Over the years, OFB has developed valuable skills and strengths in terms of fully integrated multi-technology capabilities: core competencies in the production of ammunitions, armoured vehicles, artillery equipment, explosives and small arms and a vast pool of skilled human resources. I am confident that the Army which has reposed faith in OFB for supply of Arms and Ammunitions shall not be left wanting.

The key initiatives are focus on R&D, modernisation in core competence areas, inducting and nurturing empowered young workforce. From making almost everything in-house in the past and a virtual total backward integration, OFB is moving forward to become a complete combat solution provider.

New strategic initiative is directed on leveraging its existing strengths and further reinforcing core competency areas by very aggressive modernisation of its infrastructure and focused capacity-expansion plans; at the same time drawing increased product support and developing synergy with Indian Industry; drawing technology support and concurrent working with DRDO for new product development and product upgrades; and if required, strategic alliance with foreign collaborators in key technology areas. The aim is to emerge from a mere manufacturer and technology recipient through Transfer of Technology (ToT) to an integrator of major platforms for Defence use and turn into a complete combat solution provider.

**DSA:** What are the major R&D initiatives and achievements of OFB?

**OFB:** The mandate for R&D in Defence has been with DRDO and OFB till 2006 was focusing mainly on modification and upgrade of existing products on feedback from users. However, beginning 2006, OFB has laid stress on in-house R&D. Our R&D infrastructure today is backed by 12 R&D centres having well defined areas of responsibility in specific product category.

I am proud to inform that OFB has indigenously developed *Dhanush* 155 mm 45 Calibre Gun system capable of firing upto 38 km (against 30 km of *Bofors* 39 Calibre gun system) with cutting edge auto-laying and electronic sighting technology. *Dhanush* is a unique model of synergised approach for development of a complex system involving all stakeholders viz user, manufacturer and designer. We are planning to supply 114 guns in next 2-3 years to support its acquisition programme for 414 numbers. OFB has also undertaken upgunning of 130 mm gun to 155x45 calibre and is planning to offer the system by October, 2015. Alongside, OFB is also ready for user trials of 130 mm *CATAPULT* Gun mounted on *Arjun MK-I* Tank chassis with advanced features to add to the fire power. Also through in-house R&D efforts new ammunitions items have been introduced for Army, Navy, Air Force and Paramilitary Forces. For Air Force, OFB has developed and productionised various Reduced Danger Zone (RDZ) air dropping bombs. For Indian Navy also OFB has developed indigenised RGB 12 and RGB 60 rockets. OFB is concentrating on its R&D efforts in developing and productionisation of next generation of Artillery Platform to make the country self-reliant in 52 Calibre gun systems too.

Through synergy of R&D efforts DRDO and OFB are in process of developing Joint Venture Protective Carbine (JVPC), Under Barrel Grenade Launcher (UBGL), Multi Calibre Assault Rifle, 40mm Air Bursting Ammunition, Anti-Tank Mines *Adrushya MK-II*, Multi-mode grenades etc. Besides, OFB is now actively involving in academic and professional institutes of repute for development of a series of new products including electronic fuzes and smart ammunitions.

**DSA:** Short supply of ammunition to Army from OFB has been under criticism. What are the plans of OFB to meet the requirements of Army for Ammunitions?

**OFB:** Ammunitions and Explosives manufacturing



MC Bansal

in Ordnance Factories is one of the core areas and involves lot of backward and forward integration. OFB not only meets the requirement of Armed Forces but also supplies ammunition to the State Police Forces, Central Paramilitary Forces as well as Civil Trade and Export. OFB has supplied around Rs 18,000 crore worth of ammunition in the last five years. However, due to enhanced requirement and based on critical shortages, the requirement of ammunitions has gone up manifold and OFB needs to supply in future ammunition worth around Rs 9,000 crore per annum. In order to cater for this, OFB has taken a massive expansion plan not only in ammunition and explosive group of Factories but also in the hardware supplying factories. These include 125 mm tank ammunitions, Bi-modular Charge Systems (BMCS) for 155 mm Gun, *Pinaka* rockets etc. Besides this, modernisation action has been initiated to replace old explosive plants with PLC controlled automatic explosive plants for better quality and reliability. For overcoming shortages of tank ammunitions especially in Kinetic Energy Ammunition FSAPDS (Fin Stabilised Armour Piercing Discarding Sabot) category, OFB is the technology recipient from Russia and is gearing up to manufacturing the same and make supplies to Army beginning year 2015-16. Also efforts are on in association with DRDO, to develop and productionise indigenous version of Kinetic Energy Ammunition for tanks with higher armoured penetration capability. **DSA**

# LIMITED WAR AGAINST A NUCLEAR BACKDROP

Any limited war needs to have a highly reliable communications, command and control system so that the war does not escalate. Nuclear threat is possible in an ongoing nuclear war. However, even threat of use of nuclear weapons has lost its credibility. During the Cold War, the then two super powers armed with nuclear weapons threatened each other more than twenty times and soon realised the hollowness of this type of threat.

**N**uclear weapon generates several myths; and one of the myths is that it eliminates the possibility of war – limited or full – between two nuclear weapons adversaries. The myth that a war is impossible for two nuclear weapons countries was constructed using the Cold War experience and history. Even the Cold War witnessed war without any nuclear weapons exchange. The Kargil War, in recent years, further demystified this idea and the theology. A war was fought between two nuclear weapons countries and as evident, no nuclear exchange took place.

## The Existential Conundrum

Is there a possibility of limited war against a nuclear backdrop? This question is being raised presently and before. The question has been daunting the strategicians, politicians and policy analysts alike. The question came up before the international community with the advent of the nuclear weapons age. Similarly, the security community has also been discussing the definition, meaning and possibility of total war to understand the meaning of limited war. There are different understandings and approaches to limited war. The distinction between total war and limited war is generally made on the basis of indicators such as the military and political objective of war and mobilisation of the population and resources, including military means for war. Robert Osgood, one of the early theoreticians of limited war explains it in terms of political objective.

Under this understanding some classify both the World Wars and a couple of European wars fought in the nineteenth century and before as total wars. Some of the writings considered the conquest of a country as the total war, but the withdrawal from the enemy's territory as limited war. However, many hold the view that total war, in history or at least in the current history, has never been fought; so the very idea of total war is a myth because throughout the history of mankind, war is generally limited. Occasionally, the wars had been fought to capture the entire territory of a country. The post-Second World War or even the post-Cold War world is a witness to limited war or wars. Limited war is generally associated with

the war of attrition. Many argue that limited war requires moral virtue on the part of a nuclear weapon country or the two or more nuclear adversaries. They must understand the peril of introducing nuclear weapons; therefore, it must be a taboo.

## Russia-Ukraine Confrontation

If the two nuclear adversaries fought a war without using nuclear weapons in Kargil, there are wars in which one nuclear adversary is an indirect party and another is directly involved in conflict / aggression / war. The recent Russian and Ukrainian tension may not be between two nuclear adversaries but against a nuclear Russia, the resisting party or an adversary is the Western group-led by the nuclear armed United States and some other nuclear armed European countries. The US and North Atlantic Treaty Organisation (NATO) raided Taliban controlled and Pakistan managed Afghanistan after 9/11 attacks. Pakistan did not escalate the war but meekly surrendered and joined the US invasion as a willing country. Worse, the US kept raiding inside the nuclear armed Pakistan but the response has always been docile and non-nuclear flexible. A completely helpless and murmuring Pakistan did / does not even embrace limited war.

Is there any other kind or idea of limited war against a nuclear backdrop? Actually, after the end of the Second World War, the dominant understanding on the limited war, during the early decades of the Cold War, was in terms of use of tactical and other battlefield weapons for limited effect. In fact, the attempt to marry nuclear weapons with limited war was made by the US government as early as 1948. It started Project Vista at the California Institute of Technology to explore the role of tactical nuclear weapons for limited warfare.

The effort continued in the later years. In 1953, Ralf Lapp's technical work was the first published literature which analysed the possibility of nuclear weapons in limited war. However, the most popular and authoritative work was produced by Bernard Brodie in 1954. He argued for limited and tactical role of nuclear weapons in war in Europe to scuttle the communist advantage in the region, though the NATO council ruled out its possibility in Europe.

## Total Vs Limited

Throughout the Cold War and even after the end of it, writings and reports from both the governmental and non-governmental organisations continued to come arguing for and against the use of nuclear weapons for a limited war. In 1957, James King debunked the thesis that a nuclear war can be kept limited. Later, he was joined by Bernard Brodie and much later in the 1960s onwards by a number of writers. The idea was called 'unmitigated nonsense'. However, the relevance of nuclear weapons for limited war got a very prominent name and that was Henry Kissinger. For decades, he along with others kept arguing the significance of nuclear weapons to keep a war limited and deterrence credible and cost effective.

During the Cold War, the Korean and Vietnamese Wars were two much highlighted wars to discuss the cases of limited war in the nuclear age. The Korean War was generally accepted as a limited war by all standards. Even the involvement of the two hostile groups did not make it a total war. In fact, later declassified documents and other writings reveal that MacArthur wanted to make the war total because in his thinking there is nothing called limited war; according to him, there should be either total peace or total war. However, President Truman later wrote about the Korean War that "Every decision I made in connection with the Korean conflict had this one aim in mind; to prevent a third world war and the terrible destruction it would bring to the civilised world."

On the American Vietnam War Samuel Huntington remarked that the Vietnam War was a limited war and the crucial issue is that domestic opinion must be supporting this short version of war. This war highlighted a new kind of role for decentralised military units and civil-military relationship in shaping the nature of war. Many refuse to accept the Vietnam War a limited war but a total war. However, the most significant point is that a nuclear armed US did not use nuclear weapons even when it was suffering losses. Admittedly, it did use chemical weapons – another weapons of mass destruction – in the war.

## Nukes Have Lost Credibility

Although Schelling placed limited war in the realm of diplomacy whereby negotiations are conducted, it is certainly more than coercive diplomacy. Any limited war needs to have a highly reliable communications, command and control system so that the war does not escalate. Nuclear threat is possible in an ongoing nuclear war. However, even threat of use of nuclear weapons has lost its credibility. During the Cold War, the then two super powers armed with nuclear weapons threatened each other more than twenty times and soon realised the hollowness of this type of threat. The post-Cold War world is witnessing a nuclear taboo. Nuclear pundits worldwide agree that threat as a coercive instrument has by and large become ineffective in extracting concessions from an adversary


Generally, the international community shows solidarity to a country that is threatened by a nuclear adversary.

## Nuclear Posturing

A nuclear weapon country knows that any introduction of nuclear weapons will not alter the behaviour of its nuclear adversary but will be returned by the same kind of reprisal, even possibly a more devastating massive retaliation. It is a super myth that the possession of nuclear weapons makes politicians and publics more aggressive. Irrationality of any class or group in a nuclear weapon country is easily checked in the modern interdependent world. All nuclear weapons countries except North Korea have their strategic communities interacting with each other. These communities are found not merely enlightened but also resourceful enough to influence irrational elements in their countries. A couple of countries just do posturing about the domestic pressure to gain concessions.

## Pakistani Bluff

Kenneth Waltz too sees the possibility of a war between nuclear weapons countries, but he viewed that the fear of war turning into nuclear will make these states de-escalate, not further escalate. The possibility of use or threat of use may also invite pre-emptive strike on the threatening country by the nuclear adversary or a coalition of powerful nuclear and non-nuclear countries. In India's neighbourhood, the Pakistani nuclear blackmail has to end and for this, war as an option should be kept in mind. The use of tactical nuclear weapons mounted on the *Babur* missile is projected as a possibility in an India-Pakistani war. This bluff is perpetuated by high-pitched campaign launched by a section of the Western non-proliferation community. This campaign basically helps the Pakistani nuclear blackmail.

A brief history of the nuclear world demonstrates that limited war in a nuclear age is a possibility. It is difficult to predict the kind of restrictions nuclear weapons may impose on war and make it limited. As discussed, a war called limited was also prolonged. The long-operating nuclear taboo and the possibility of reprisal dissuade the use of nuclear weapons in such a war. Pakistan appears the only country that is threatening to use nuclear weapons to achieve its political objectives. It threatens to use nuclear weapons to shield its terror attacks on India without getting any intervention through conventional war or limited war. The international community needs to send a strong message on the Pakistani nuclear blackmail. 



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# INDIAN ARMY'S NIGHT FIGHTING CAPABILITIES

For the infantry, its ability to dominate an area of operations, combat terrorists and insurgents and prevent terrorist infiltration across our borders is largely dependent on its night fighting capability. Multiple detection means are required to ensure all round capability. As of now, the Army is looking at a mix of passive image intensification (2nd generation) sights, thermal imagers (TIs) and unattended ground sensors (UGS).

Practitioners of warfare through the ages have understood the importance of maintaining tempo and momentum in battle as a prerequisite for victory. This remains a valid concept for present day war fighting as well as for future conflict. In earlier times, fighting invariably ceased at nightfall, primarily because combat in the dark with unreliable communications made it well-nigh impossible to control events on the battlefield. This gave rise to the custom of beating the retreat at nightfall to cease hostilities and sounding of the reveille next morning to resume battle. Today, with the development of night vision devices and state-of-the-art communication systems, we are looking at continuous day and night operations under all weather conditions, to maintain the tempo and momentum of operations.

### Force Multipliers

Night vision devices (NVDs) are force multipliers,

widely used both in conventional and sub-conventional conflict and in border surveillance and allied operations. Modern warfare requires battlefield transparency under all types of conditions. Military forces that 'own the night' will have a decisive edge *vis-à-vis* the adversary as they can overcome the twin obstacles of weather and visibility, which play havoc with military operations. The ability to detect, identify and engage targets at night hence remains crucial to India's Armed Forces as well as to the Central Armed Police Forces (CAPFs). While Indian capability in night fighting has improved dramatically from earlier years, the security forces still have a long way to go, as a large portion of the force is yet to be equipped with such devices. The night fighting equipment presently in use also has its own sets of problems with respect to maintenance and power supply and is heavy and inefficient.

In India, Bharat Electronics Ltd (BEL), a Defence

Public Sector Unit (DPSU) established in 1954 and the Defence Research and Development Organisation (DRDO) are the two organisations that deal with night vision enablement for the country's military. That the armed forces still face serious challenges with respect to their night fighting capability is a sad reflection on the public sector's ability to provide the requisite support to the forces. Present and future battlefield scenarios, both in the conventional and sub-conventional domains will be lethal, violent and intense, with operations continuing by night to maintain battlefield tempo. In the absence of effective night fighting capability, the soldier's ability to fight stands seriously degraded.

### Border Surveillance

India has over fifteen thousand kilometers of land borders with six countries and faces multifarious challenges in border management. For the most part, the borders are guarded by the Central Armed Police Forces (CAPFs), with the Army guarding the Line of Control (LoC) in J&K and the Line of Actual Control (LAC) in Arunachal Pradesh. Over such a vast frontage the problems are diverse and come with their own set of security concerns ranging from infiltration of terrorists, illegal immigration, human trafficking, smuggling of narcotics, arms and explosives, smuggling of cattle, cross-border moves of insurgent groups and the like. The fact that India has a boundary and territorial problem with two of its neighbours further compounds the above challenges.

For effective border management, troops need to be equipped with modern night vision devices in adequate numbers to enhance capability. Most devices in current use with the CAPFs have outlived their useful life as they were procured 20 to 30 years ago. The monocular and binocular devices in use are ineffective in pitch-dark conditions and are not user-friendly. A limited quantity of hand-held thermal imagers (HHTIs) are available and these enjoy a good reputation amongst the troops. However, this equipment is costly, has a limited life and is ineffective in inclement weather conditions. HHTIs also have a prolonged repair cycle which lasts for almost a year, as repair facilities are located in the southern parts of the country. LORROS (Long-Range Reconnaissance and Observation System) is available in some areas and is effective for medium and long-range observation. However, a single man cannot handle and operate the system. Similarly, BFSRs (Battle Field Surveillance Radars) also require a technical hand to operate. What the CAPFs need for effective border management are large numbers of TIs and PNVDs. These must be lightweight, have long power back up, be easy to maintain and should be user friendly. They should also have a recording system for

effective monitoring at the ground level. Indigenous manufacture could lead to cost reduction.

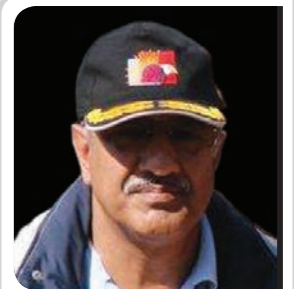
### Night Vision For The Army

**Infantry:** For the infantry, its ability to dominate an area of operations, combat terrorists and insurgents and prevent terrorist infiltration across our borders is largely dependent on its night fighting capability. Multiple detection means are required to ensure all round capability. As of now, the Army is looking at a mix of passive image intensification (2nd generation) sights, thermal imagers (TIs) and unattended ground sensors (UGSs). The UGSs presently in use are limited in their ability as they are not able to differentiate between man and animal at extended ranges. While equipment flows have started, the numbers required are very large and will take years to fill existing voids. A serious source of concern

remains the power backup facility for the NVDs, which is highly constrained as of now.

**Artillery:** For the artillery, the primary task of which can be summarised as seek-locate-destroy, the crucial requirement for precision target engagement would be surveillance and target acquisition. The processes involved in seek and locate are sensor tasking, information flow, data synthesis and intelligence extraction. For effective target acquisition, the information flow should be timely and accurate for the commander on ground to make the right operational decision. For task accomplishment, the artillery would require modern communication links, needs based sensors including NVDs for different weapon platforms, live feeds, national Geographical Information Systems (GISs), map information based collation and enhanced crew efficiency through training. Currently, there is inadequacy in the numbers of NVDs and the quality of resolution of optical imagery requires improvement. There is an urgent requirement of a dedicated defence satellite for bandwidth and other critical functions of coordinate identification. NVDs can also help in decreasing the sensor-to-shooter cycle particularly during night and times of reduced visibility.

**Mechanised Forces:** Important issues for the Mechanised Forces relate to the availability and use of cooled technology, gunner and commander sights for tanks and night-enabling image intensifiers and thermal sights. Thermal sights can be cooled or uncooled and are judged in terms of their parts,



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There is lack of trust and collaboration between public-private R&D model and the prevalent confrontational attitude needs to be addressed. If impetus is given to process based mass manufacturing, private industry can contribute in a big way

materials, bands at which they operate and the working environment for which they are required. Panoramic sights are required for the commander integrated with the gunner. The driver of the tank also needs limited-range sights. Any new equipment and technology being inducted would have to be integrated into existing systems or infrastructure. That would remain a defining challenge as also own capability to maintain it. With respect to critical technologies, the capability of DRDO to deliver on such technologies as well as the capacity and ability of the private sector to absorb such technologies when in partnership with foreign vendors also remains a challenge. Imperatives to be addressed are the procurement of current technology with future upgrades and the scope for the same in joint ventures with foreign vendors, offsets that are optimised to obtain current technology, transfer of technology including software, protocols and codes and replication of OEM-mandated production protocols. Allied aspects are the operational, training and human resource aspects.



of trust and collaboration between public-private research and development (R&D) model and the prevalent confrontational attitude needs to be addressed. If impetus is given to process based mass manufacturing, private industry can contribute in a big way.

**The Indian Public Sector**

Bharat Electronics Ltd is supplying about 56,000 2nd generation based NVDs to the Army, half of which have been delivered. It has delivered about 60 weapon sights for snipers, INSAS and hand-held devices. It has manufactured under license through ToT, over 7,500 cooled TI sights, of which 554 indigenous

TI camera / devices are being delivered and a quantity of 10,000 based on indigenous TI sights whether it is DRDO based or BEL's in-house development is the future projection. It has also taken baby steps in indigenously developing uncooled TI sights. Manufacture of NVDs in India is being done in four factories with capability for further expansion. BEL and DRDO are looking into the development of fusion technology by fusing II and TI based NVDs which will not only enable better night sight but also enable sharing among soldiers. However, the challenge on areas such as power, size and weight remains. The fusion of both technologies would merge the strengths of image intensification, which will be clear, sharp green-tinted picture with an advantage of infrared, which in turn will enable to see practically under any environmental conditions resulting in enhanced NVDs. User concerns however remain on the capability of the public sector to deliver the requisite quality in time.

**Clearing A Backlog**

The Army has a huge requirement for night fighting equipment to make up its current shortfall. Indigenisation of NVD technology through increased private sector participation is perhaps the way to go forward. Fusion technology, hybrid systems and laser-gated illumination are the future of NVDs. We also need to look into autonomous systems with recording facilities. User inputs must drive research in this field to enable scientists and technologists to address user concerns such as size, power requirements, weight, resolution, signal to noise ratio, clarity among other parameters. As of now, the Indian Army is in the process of equipping its soldiers with third generation NVDs to match different weapon platforms. It would however also need to look into doctrinal, organisational and training issues across the conflict spectrum, as the revolution in military affairs has affected the way in which sensor technologies, computing system, satellites and communication systems function and allow an omniscient view of the battlefield. **DSA**

**Perspective Of Industry**

The domestic private industry is currently mainly a subcontractor and ancillary provider of products to the defence forces. India has a great advantage as it can acquire the latest state-of-the-art technology for defence modernisation programmes overcoming the progressive upgrade inertia of existing legacy systems in most cases. Clarity on parameters such as technology specifications, operational use, mobility requirements, clarity and resolution and weight, cost and power performance can help the industry to deliver quality NVDs for defence forces. As of now, there is lack



**RESTRUCTURING ARMY FOR NEW CHALLENGES**

At present we have the organisational structure of Holding Corps and Strike Corps. In the modern battlefield where it has been made transparent by satellites, UAVs and air surveillance, deployment of Corps cannot be kept a secret from the enemy. Surprise is therefore lost at the first opportunity. The need is to evolve lean and mean structures which can quickly concentrate without giving undue warning to the adversary. A suitable organisation could be all arms battle groups which can be swiftly concentrated and launched. In the present day concept, even a division size force is too ponderous.

**T**he government after six decades of independence continues to follow modes and procedures of colonial rule in many of its precepts and practices. It would be natural to presume that in democratic system, the military is an integral part of the policy making and execution agency called the government, but in India, military has been deliberately kept out of the decision-making loop. Apart from this glaring infirmity, Indian Army continues to retain its organisational structure and functioning on the Second World War concepts whereas the world has moved to the revolution in military affairs, cyber and space warfare. Both our adversaries are nuclear weapon states yet we have failed to evolve a suitable nuclear doctrine to deal with this threat. Therefore the Indian Army needs to change – organisationally and doctrinally.

**Critical Conceptual Issues**

**Integration of Service HQs with MoD:** At the time of independence when our leaders looked around, they found most countries in Asia and Africa, even Europe being ruled by the military. The overwhelming desire therefore was to evolve a structure where military is

kept outside the government and made subservient to the government which in practice meant bureaucratic control. This system persists to this day. There is an urgent need to evolve a structure where military is made a part of the government for integrated decision-making. This has been recommended both by the Kargil Review Committee and Naresh Chandra Task Force but the bureaucracy has managed to stall this reform. In our system bureaucracy has all the authority and no responsibility whereas the Armed Forces have all the responsibility but no authority. The politician remains a disinterested spectator. This arrangement is completely inadequate to fight a modern war.

**Evolution of a National Security Doctrine:** It is the responsibility of the government of the day to evolve a national security doctrine with the involvement of all stakeholders. In the doctrine, clear tasks will be spelt out for the Armed Forces. Nuclear doctrine will also be part of the National Security Doctrine. We must be the only country in the world which has fought five wars without any government directive. If we have to meet the challenges of a collusive scenario, evolution of a National Security Doctrine is a must.



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**The System of Budgetary Allocation:** The system of budgetary allocation to the Armed Forces is faulty and needs reform. In the present system, budgetary allocation is made on an annual basis. Unspent capital head funds thereafter revert to the consolidated fund of India. A fresh allocation is then made in the following year's budget. Since no meaningful acquisition of hardware can be made in one year, year after year funds revert to the Finance Minister who is only too happy since he utilises this amount to reduce fiscal deficit and earns kudos from the Members of Parliament! The defence budget therefore needs to be allocated on a roll-on-to-next-year basis. This practice was started by the Janata government in 1977 but died its natural death after the collapse of that government. It needs to be revived.

**Jointness between Services:** In the absence of a Chief of Defence Staff and his Secretariats, each Service functions in a mutually exclusive environment whether it is planning, acquisitions or war fighting doctrines. This state of affairs needs to be corrected at the earliest. Chief of Defence Staff is needed to render single point advice to government and coordinate efforts of the three Services in an optimal manner. A theatre command concept is therefore necessary to fight a modern war. A suggested matrix could be as under:

- **Northern Command.** Army and Air Force to be commanded by the Army.
- **Western Command.** Army and Air Force to be commanded by the Air Force. Strike Corps of the Army to be put under this command.
- **Southern Command.** Army, Navy and Air Force to be commanded by the Navy.
- **Eastern Command.** Army, Navy and Air Force to be commanded by the Army.

#### Strategic Commands

- **Andaman and Nicobar Command.** Army, Navy and Air Force to be commanded by the Navy.
- **Space Command.** Army, Navy, Air Force grouped with DRDO and ISRO commanded by Air Force.
- **Special Operations Command.** Army, Navy and Air Force to be commanded by Army.
- **Cyber Command.** In view of increasing importance of cyber warfare, structure of cyber command will have to be carefully evolved.
- **Strategic Force Command.** Although it is in existence but its structure needs to be evolved after deliberate thought.

**Revamp of Procurement Procedures.** Unless our procurement procedures are revamped and acquisition is made faster and transparent, Services will continue to suffer. There is an urgent need to involve the domestic industry in defence manufacturing.

**Restructuring of Ordnance Factories.** At present 39 Ordnance factories are manufacturing low technology items for the Armed Forces. These items are available ex trade at a much cheaper price. A task force, suitably constituted, needs to recommend restructuring of the ordnance factories and their upgradation to enable them to manufacture high technology items.

**DRDO-Army Interface.** At present the DRDO and the Army seem to be working in separate compartments with little coordination. DRDO has failed to meet the requirements of the Army. This unhealthy state of affairs needs to be corrected at the earliest.

#### Organisational Changes

**Transparent Battlefield.** At present we have the organisational structure of Holding Corps and Strike Corps. These formations deploy in designated areas during warning period after receipt of a warning order. In the modern battlefield where it has been made transparent by satellites, UAVs and air surveillance, deployment of Corps cannot be kept a secret from the enemy. Surprise is therefore lost at the first opportunity. The need is to evolve lean and mean structures which can quickly concentrate without giving undue warning to the adversary.

**Three Armoured Divisions.** In the Indian context, a war against any of our two adversaries will start in the mountains and thereafter may spillover to the plains, deserts or the Indian Ocean. In the plains and deserts of our Western Sector, large number of habitats have come up. These will not permit large scale manoeuvres by the mechanised forces. We therefore need to seriously consider whether we need three armoured divisions or do we need to enhance our capability to fight in high altitude terrain. Concentration of mechanised forces which are division size cannot remain concealed from the enemy. They will become attractive targets for a pre-emptive conventional or nuclear strike by our adversary during concentration itself. A suitable organisation could be all arms battle groups which can be swiftly concentrated and launched. In the present day concept, even a division size force is too ponderous to concentrate, be launched or side stepped when required.

**The Nuclear Overhang.** Keeping in mind the fact that both our adversaries are nuclear weapon powers, we need to prune our ponderous organisations. In a nuclear environment, days of a deep thrust operation into enemy territory are over because such an operation will surely invite a tactical nuclear strike. Our nuclear doctrine does not advocate tactical nuclear weapons. So our response will be a massive retaliation with strategic nuclear weapons. It will pose a moral dilemma. Why should Karachi or Lahore be vaporised when the enemy has used a tactical nuclear weapon in field. Apart from that, world opinion is not going to support counter city strike. The conclusion reached is the inclusion of tactical nuclear weapons in our nuclear doctrine and nuclear armoury.

It is high time that we restructure the Army to make it capable of fighting a two front war under the nuclear shadow. We cannot carry on with the organisations of Second World War vintage. The most important and the most difficult reform will be the integration of MoD with Service HQ which will be so opposed tooth and nail by the bureaucracy. We have to get out of our *status quo* mentality and fast. **DSA**

## FROM DISSUASION TO DETERRENCE

China's political, diplomatic and military aggressiveness at the tactical level is acting as a dampener. China's assertive behaviour is in keeping with its recent aggressiveness in the disputed areas of the East China Sea and the South China Sea. While the probability of an India-China conflict is low, its possibility cannot be ruled out.



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**T**he Union Home Minister Rajnath Singh, announced in the last week of October 2014 that India planned to build 54 new posts along the border with China. Two weeks earlier, plans to build 1,800 km long road along the border of Arunachal Pradesh at a cost of US\$ 6.5 billion had been made public. This road will be built in addition to 72 roads, the construction of which has begun, three airstrips and several new helipads. These construction activities are intended to strengthen border infrastructure, in order to improve surveillance and enable quicker deployment of forces if it becomes necessary, as also the move of reserves from one sector to another during war.

#### China's Dual Track Policy

Relations between India and China have been fairly stable at the strategic level over the last few decades. Mutual economic dependence is growing rapidly every year; bilateral trade has crossed US\$ 60 billion and is expected to touch US\$ 100 billion soon. The two countries have been cooperating in international forums like WTO talks and climate change negotiations. There has even been some cooperation in energy security. However, normalisation

of the strategic and security relationship has not kept pace with the political and economic relationship. Despite prolonged negotiations at the political level to resolve the long-standing territorial and boundary dispute between the two countries, there has been little progress on this sensitive issue.

China has raised the ante by way of its shrill political rhetoric, frequent transgressions across the Line of Actual Control (LAC) and unprecedented cyber-attacks on Indian networks. The security relationship has the potential to act as a spoiler in the larger relationship and will ultimately determine whether the two Asian giants will clash or cooperate for mutual gains. China's political, diplomatic and military aggressiveness at the tactical level is acting as a dampener. China's assertive behaviour is in keeping with its recent aggressiveness in the disputed areas of the East China Sea and the South China Sea. While the probability of an India-China conflict is low, its possibility cannot be ruled out.

#### Countering China's PLA

As long as the territorial and boundary dispute with China remains unresolved, though the probability of conflict is low, its possibility cannot be ruled out and

India must prepare for such a conflict. With its present military capabilities and defensive strategy, India is well poised to defend its territory against Chinese aggression. However, that is not adequate to deter aggression. India must upgrade its military strategy against China from dissuasion to deterrence. Only the capability to take the war into Chinese territory and making the cost of conflict prohibitive for it, will deter the adversary from initiating another border war. Such a capability will be provided only by strike formations being raised for the Army, combined with the ability of the Indian Air Force to dominate the skies over Tibet to give Army commanders a free hand and to inflict punitive damage. Naturally, maritime capability must be similarly bolstered to retain the present edge that the Indian Navy enjoys over the PLA Navy in the Indian Ocean.

**The Strike Corps, in conjunction with the Indian Air Force (IAF), will provide the capability to launch offensive operations across the Himalayas so as to take the next war into Chinese territory**

Since the war will be fought under a nuclear overhang, particularly with Pakistan, there is a fair possibility that both sides will strive to ensure that it remains confined to the mountains so that it does not escalate out of control to nuclear exchanges. Hence, it is time for India to pivot to the mountains in its quest for building military capacities and it is creditable that the government has given the go ahead to raise a new Strike Corps.

In any future war that the armed forces are called upon to fight in the mountains, gaining, occupying and holding territory and evicting the enemy from Indian territory occupied by him will continue to remain important military aims. While these will be infantry predominant operations, no war plan will succeed without achieving massive asymmetries in the application of firepower to destroy the enemy's combat potential and infrastructure. Therefore, Army-IAF operational plans must be fully integrated. These must be jointly evolved, meticulously coordinated and flexible enough to be fine-tuned to exploit fleeting opportunities and to take advantage of the enemy's reactions during execution. This is especially so in the mountains where the military aims and objectives are limited in scope because of the terrain. Both the Services must work together to create the capabilities that are necessary to take the battle into enemy territory during the next war in the mountains.

**Firepower And Air Assault**

As artillery batteries and regiments cannot be moved and re-deployed easily, operations in the mountains place a much greater demand on battlefield air support. Operational mastery over air-to-ground strikes can influence the outcome of tactical battles in the mountains extremely favourably. Firepower ratios can be enhanced to levels necessary for achieving overwhelming superiority only through major enhancement in the availability of artillery guns, rocket launchers and surface-to-surface missiles (SSMs) as well as massive volumes of battlefield air support. A contract for the acquisition of 144 howitzers of 155 mm calibre has been hanging fire for long and needs to be expedited. In addition, new artillery units equipped with short-range ballistic missiles (SRBMs) that can engage targets deep inside Tibet from deployment areas in the plains need to be raised. Precision-guided munitions (PGMs) must also be acquired in large numbers both by the artillery and the IAF to accurately destroy important targets such as HQ, communications centres and logistics infrastructure. The government must also hasten the acquisition of intelligence, surveillance, reconnaissance and target acquisition equipment.

**Vertical Envelopment**

The peculiarities of terrain and the lack of sufficient road communications, particularly lateral roads that connect the road axes leading to the border, will place heavier demands on helicopter lift for the movement

India needs at least two Strike Corps to take the war into Chinese territory – one each for Ladakh and Arunachal Pradesh. On July 17, 2013, the Cabinet Committee on Security (CCS) approved the Army's proposal for raising a Strike Corps for the mountains. Though the approval came after considerable delay, it is a pragmatic move that will send an appropriate message across the Himalayas. It will help India to upgrade its military strategy against China from dissuasion to meaningful deterrence as the Strike Corps, in conjunction with the Indian Air Force (IAF), will provide the capability to launch offensive operations across the Himalayas so as to take the next war into Chinese territory, while simultaneously defending Indian territory against Chinese aggression.

The new Strike Corps will comprise two infantry divisions and will be supported by three independent armoured brigades, three artillery brigades to provide potent firepower, an engineer and air defence brigade each, an aviation brigade and units providing logistics services. The Corps will cost Rs 64,000 crore to raise and equip over a period of five to seven years. Approximately 90,000 new personnel will be added to the army's manpower strength, including those in ancillary support and logistics units. The Army has already raised 56 and 71 Mountain Divisions and deployed them in Arunachal Pradesh to fill existing gaps in the defences. Some elements of these divisions will act as readily available reserves for the new Strike Corps to add weight along the axis of attack and exploit success. These divisions will also be employed to secure launch pads for offensive operations across the Himalayas. Hence, these must be seen as playing a significant supporting role for the Strike Corps.

**Mountain Warfare**

As the territorial dispute with Pakistan over Jammu and Kashmir is also in the mountains, there is a very high probability that the next conventional conflict involving India will again break out in the mountains.



of reserves within divisional and brigade sectors. At the operational level, only an "air assault" formation can turn the tide through vertical envelopment and enable deep offensive operations to be carried out when employed in conjunction with Special Forces. An air assault brigade group inducted across the LoC or LAC by helicopters after the IAF has achieved a favourable air situation can seize an objective in depth. Ideally, each of the infantry divisions of the Strike Corps must have one air assault brigade with the requisite air lift. Air-transported operations can also play a major role in influencing the course of the war. During Operation Parakram in 2001-02, almost a complete brigade group was airlifted to Kashmir Valley to enhance the reserves available in 15 Corps for offensive operations. In addition to attack helicopters, which will provide sustained firepower support, a large number of utility helicopters will be required to support offensive operations across the Himalayas, including medium- and heavy-lift helicopters.

**At the operational level, only an "air assault" formation can turn the tide through vertical envelopment and enable deep offensive operations to be carried out when employed in conjunction with Special Forces**

**Viable Infrastructure**

The successful launching of Strike Corps operations will depend on the availability of good infrastructure, including double-lane roads with all-weather capability and suitably placed logistics nodes. India's plans to upgrade the logistics infrastructure in the states bordering China have not been progressing at the required pace. In fact, there have been inordinate delays due to the lack of environmental clearances and other reasons. Of the 72 new roads sanctioned by the government in 2009-10, only nine have been built. Three air strips have been refurbished. While the new Strike Corps is being raised, equipped and trained, the government must make vigorous efforts to speed up the completion of infrastructure projects. Otherwise, the Army will have a new Strike Corps and not be able to launch it effectively. If need be, road construction in the border areas should be outsourced to suitable

private sector companies. There is no real reason why it must remain the monopoly of the Border Roads Organisation.

The military gap between India and China is growing steadily as the PLA is modernising at a rapid pace that is fuelled by the double-digit annual growth in the Chinese defence budget. China's defence budget is growing annually between 16 and 18 per cent. While India's military modernisation plans continue to remain mired in red tape, the Chinese armed forces have surged ahead in many areas of defence modernisation; the gap is slowly becoming unbridgeable. In 15 to 20 years from now, China may attempt to force a military solution to the territorial dispute with India after settling the Taiwan issue and India may be forced to accept an unequal settlement due to its military weakness.

**Chinese Strategy**

China's negotiating strategy on the territorial dispute is to stall resolution of the dispute till they are in a much stronger position in terms of comprehensive national strength so that they can then dictate terms. The rapidly blossoming strategic partnership between China and Pakistan is also a major cause for concern. During any future conflict with either China or Pakistan – even though the probability is low, India will have to contend with a two-front situation as each is likely to collude militarily with the other – a situation for which the Indian armed forces are not prepared. Hence, it is in India's interest to strive for the early resolution of the territorial dispute with China so that India has only one major military adversary to contend with. Once the long-standing territorial dispute is resolved, there is no reason why the dragon and the elephant cannot dance together. **USA**

# EXCLUSIVE INTERVIEW

## NEERAJ GUPTA, MANAGING DIRECTOR

### *MKU Private Limited*

**N**eeraj Gupta, Managing Director of MKU Private Limited is a visionary entrepreneur who is credited with starting the armour business of the company and taking it overseas. His keen interest in technology coupled with his strong determination to build a globally respected company has been the driving force behind MKU's foray into the international market. Today, MKU products are being used by 230 forces in over 100 countries.

A dynamic leader, he is always on the lookout for new opportunities and technologies. He has the vision to make MKU the leading defence company in India and a prominent global player in the protection and surveillance sector.

**DSA:** How big is the ballistic market in the country? And in Asia?

**MKU:** India has one of the largest security forces in the world. Due to the security environment in the region and particularly in India, augmentation of the numbers as well as the technological improvement of equipment is an on-going process. India is woefully short of body armour, as evident from the recent report of December 2014 presented by the Parliamentary Standing Committee on Defence. The combined requirement of body armour by the forces under MoD and MHA together is more than 6 lakh of which two RFPs for 185,000 BPJ and 150,000 helmets have already been issued and are in process.

The changing internal security environment around the world calls for better equipped forces especially to face the threat of asymmetric warfare. In close quarter combat/ anti-terrorist operations there is a growing demand for ultra-light weight high quality ballistic protection. MKU is rightly positioned to address this market need through its patented and innovative solutions like Instavest, Gen 6 Armour and Boltfree helmets.

According to a source the ballistic protection market in Asia is one of the biggest in the world and growing at a CAGR of almost 6 per cent pa.

**DSA:** What are the USPs of MKU Private Limited?

**MKU:** Quality and technological excellence have been at the forefront of MKU's growth. The fact that we spend almost 10 per cent of our revenue on R&D is a testimonial in itself. Our R&D philosophy is market driven. A fully equipped, in-house Ballistic lab in Germany and an R&D Tech Centre in Kanpur, along with a team of highly qualified engineers has



Neeraj Gupta

been the engine of innovation. World over, it is imperative for any defence company to look beyond its home turf for sustained growth. We realised this very early and today we are present in over 100 countries. Over 1.5 million soldiers and policemen from 230 forces don our body armour for protection in combat scenarios. We have large capacities and state-of-the-art infrastructure that can take care of even very large requirements.

**DSA:** How do your products compare with international manufacturers?

**MKU:** Our products can be compared to the best in the world, technologically. We have 1000+ solutions covering more than 100 types of ballistic threats in our repertoire. MKU is a registered supplier to NATO since 1993 and has manufacturing facilities in India and Germany. We are the first company in India and amongst the very few outside the US to have NIJ 06 certification for our range of body armour. Our products have been patented in Europe and US. The western economies require high quality parameters and manufacturing processes, which are sometimes also specified in the tenders. Our



MKU Factory Rooma Kanpur India

manufacturing facilities are certified to Aerospace standards AS9100Rev C and are also environment friendly and conform to ISO 14001. Global business and international standards have been the core of our evolution. We have displaced the competition from US, Europe and Israel from their traditional markets in Latin America, Middle East and Africa. In India, our list of esteemed users include the Indian MoD, MHA, state police forces and elite forces like the SPG, MARCOS, NSG among others.

**DSA:** How do you see the 'Make in India' project helping and promoting an Indian defence manufacturing company like MKU?

**MKU:** MKU has several indigenously developed and patented technologies and products and hence considers 'Make in India' a very positive initiative, but it must be understood in its true spirit. The idea is that the foreign OEMs / manufacturers be encouraged to set up units in India jointly with Indian companies and use this base to manufacture not only for India but also for the world. This presupposes the existence of qualified / capable Indian companies with certified quality processes which are capable of absorbing the inputs received, whether technological or otherwise and delivering internationally acceptable quality. Further, it also assumes the Indian partner would be able to meet the requirements of the OEM in terms of other facilities, quality standards, skilled labour etc. I am a firm believer in Indian enterprise and its capacity to deliver, given the opportunity.

We at MKU are already following this example. Our JV with a German company in 2012 to manufacture wiring harnesses for aerospace and defence is an example of such a collaboration under the 'Make in India' banner. I feel others can also make use of the opportunities provided under this initiative.

**DSA:** Would you like to see any changes in the Defence Procurement Policy of the Ministry of Defence? If yes, what are those changes?

**MKU:** The Defence Procurement Policy is evolving continuously to provide the best advantages to the manufacturers and industry and ensuring the best equipment for the services. I feel the DPP requires modifications to make it more relevant and meaningful.

● First of all it must ensure that RFPs once released should not be withdrawn without proper justification.



MKU Factory Sittensen Germany

● They must reach their logical conclusion within a reasonable, defined timeline.

● Indirect tax exemptions should be done away with. L1 vendor should be selected on the basis of the basic price/ ex-factory price. This will create a level playing field for all without any loss of revenue to the Finance ministry which has always been an Inter-Ministerial on-going debate.

● Special provisions must be built into the procurement process to ensure greater participation of the Indian industry, especially the MSME sector. Wherever the capability exists in the industry, it must be utilised by the MoD. The DPP should set aside a minimum of 10 per cent of all orders above a certain base value for MSME sector, thus helping to incubate ancillary industries. This can be done directly or indirectly through the L1 awardee.

● In cases where the industry participates in the development of a product for the MoD, preference must be given to these during serial production.

● Nomination business to PSUs should be discouraged. The capacities available with the industry, whether private or government should be utilised to the maximum without any discrimination.

● The L1 philosophy for selection of the vendor must be relooked at. Internationally, vendors are selected on the matrix of technology and price. We must also move towards this system which will benefit the end user primarily and also push the industry towards technological excellence.

**DSA:** Do you think local manufacturers need government protection? Please explicate.

**MKU:** It is to be understood that we Indians, are great entrepreneurs who willingly take up extreme challenges. However, some level of government support is essential as defence manufacturing is a nascent industry in India. In order to encourage indigenous industry as well as provide a level playing field with large international players, domestic industry must be patronised, especially if the government wants to develop indigenous capability. This will go a long way in achieving self-reliance in the defence sector. As per the current rules the indigenous industry is disadvantaged *vis a vis* the foreign OEMs especially with regard to the taxation policies. The government must address this issue and create a level playing field for the industry. The Defence Attaches in our overseas missions must promote the products of all companies, including those from the private sector and not just the PSUs. **DSA**



# Industry Monitor



## BHEL, HSL and MIDHANI to build submarines

Defence PSUs Bharat Heavy Electricals Limited (BHEL), Hindustan Shipyards Limited (HSL) and Mishra Dhatu Nigam Limited (MIDHANI) have joined hands to form a consortium for building submarines in India. The consortium is looking forward to bid for P-75I Project of Indian Navy for building six submarines.

The strategic alliance between three leading DPSUs is in response to PM Modi's 'Make in India' initiative to help create India's own military industrial complex.



## Indo-Israel Collaboration

The long awaited long-range surface-to-air missile (LR-SAM) system being developed jointly by DRDO and Israeli Aerospace Industries has been successfully tested in Israel. LR-SAM has been designed to track and destroy incoming hostile aircraft, drones and helicopters. Induction of LR-SAM is likely to begin from 2016-2017 and it will be produced in India by defence PSU Bharat Dynamics.

## AGNI-IV tested

The Tri-Service Strategic Forces Command (SFC) tested Agni-IV ballistic missile in 'its full deliverable configuration'. It has a strike range of 4,000 km. The road-mobile Agni-IV and under development ICBM Agni-V (range 5,000 km) are specifically meant for deterrence against China. Agni-IV is equipped with state-of-the-art avionics, 5th generation on board computer and distributed architecture.



## HJ Kamath joins Zen Technologies

Zen Technologies which has recently announced the signing of a Memorandum of Understanding with Rockwell Collins to address the flight simulation and aerospace market has confirmed the appointment of HJ Kamath as its senior vice president to spearhead and drive Company's growth in aerospace simulators vertical. Kamath has been closely associated with the defence industry, playing pivotal role in developing and manufacturing flight simulators, radar systems and airborne surveillance equipment etc.



## Boeing committed to 'Make in India'



Boeing India president Pratyush Kumar has confirmed opening of a new line to manufacture sections of Chinook Heavy Lift helicopters at Indian partner Dynamatic Technologies' facilities. He reiterated that Boeing has been making in India with its partners for two decades but will now expand and accelerate Boeing operations in India in the defence sector and help in creating an ecosystem for aerospace manufacturing through partnerships with local companies and government enterprises.

## Punj Lloyd gets FIPB approval

Punj Lloyd has received approval from Foreign Investment Promotion Board (FIPB) for manufacturing equipment, systems and associated assemblies for the defence sector. Punj Lloyd had been keenly looking forward to entering the lucrative defence manufacturing domain and now with increase in FDI to 49 per cent and 'Make in India' campaign FIPB approval has come at the right time.



## French companies support 'Make in India'



India's military modernisation drive and a budget of over US\$ 200 billion for big ticket acquisitions and 'Make in India' campaign have infused new interest and energy in French defence manufacturers. Leading French companies like Dassault Aviation, Nexter, MBDA, DCNS, Airbus etc. have reenergised their India operations and are looking for Indian partners to participate in PM Modi's 'Make in India' campaign.

## Now Roboflies to spy!

US Army Research Laboratory (ARL) is working on insect (fly)-like robotic devices that can buzz into enemy camps for surveillance and keep tabs on enemy. These tiny robotic flies are being developed at a fast pace and should be ready for trials and operationalisation in a few years.



# DEFENCE MODERNISATION DRIVE DAC GETS PRO-ACTIVE!

Indian Army's artillery modernisation has been a saga of numerous issued and cancelled RFPs and as a result no new artillery guns have been inducted since the Bofors acquisition in 1987. The list would be endless. Therefore, just the approval of proposals by the DAC should not give the observers an immediate reason to cheer.

The size of the proposals approved by the Defence Acquisition Council (DAC) in last six months add up to an unprecedented Rs 1,20,000 crore and makes some of us wonder whether the Ministry of Defence has actually gone into an overdrive to make up for the lost time and projects itself as being genuinely concerned about India's defence preparedness and committed to take forward the lagging modernisation programmes of the Defence Services. Before one gets overawed by the magnitude of the recent approvals by the DAC, there is a need to analyse it in light of the policy decisions affecting the defence acquisition programmes taken by the Modi government. Some of the earlier and recent DAC decisions considered for analysis are listed below.

### What Does DAC Approval Mean?

Firstly, at this stage, the DAC has approved the Acceptance of Necessity and categorisation

(source of procurement) which is the initiation of the procurement process leading to issue of Request For Proposals (RFP). There has been no dearth of proposals approved by the DAC in the past as well as can be seen in the table below; one of them being the US\$ 30 billion MMRC proposal approved in June 2007 for which the contract has not been signed till now. There would be numerous other proposals approved by the DAC during the UPA regime, big and small in value, involving high technology as well as commonly available technology which have not fructified even after inordinate delays. One does not need an in-depth research to list out such cases; Indian Army's artillery modernisation has been a saga of numerous issued and cancelled RFPs and as a result no new artillery guns have been inducted since the Bofors acquisition in 1987. The list would be endless. Therefore, just the approval of proposals by the DAC should not give the observers an immediate reason to cheer.

Proposals Approved by DAC	Value (\$ Billion)	Remarks
<b>June 2007</b> 126 Medium Muti Role Combat Aircraft	20 to 30	Buy global
<b>June 2012</b> Quick Reaction SAMs, Dornier aircraft, Bullet proof vehicles, 30 mm Naval guns, IACCS	4.5	Buy global and indigenous
<b>July 2014</b> 5 Fleet Support Ships, 32 ALH, 56 Transport Aircraft, 5 FPVs and OPVs each	3.5	Most of these proposals involved only Indian public and private sector firms
<b>October 2014</b> Six submarines, Purchase of 8,356 Anti-Tank Guided Missiles and 321 launchers, Procurement of 12 upgraded Dornier surveillance aircraft 362 Infantry fighting vehicles	13.5	Indigenous, Buy from Israel, HAL, OFB, (Medak)
<b>November 2014</b> 814 Mounted Gun systems	3.0	Buy and make



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Secondly, let us examine the categorisation approved in these proposals. While the ALH is to be supplied by HAL, the tender for transport aircraft will be issued only to private Indian industry players who would build it in partnership with the foreign firms. Under this project expected to cost over Rs 20,000 crore, the first 16 aircraft would be built at the facilities of the foreign vendor while the remaining 40 aircraft would be manufactured in India. Though some experts have raised concerns about the quantity of 40 aircraft being too less to establish an aircraft manufacturing facility, at first instance it does appear to be positive step towards capacity building in private sector and veering away from the monopoly of HAL, the only aerospace firm in the country. While it goes to the credit of the Modi government that it went ahead with this decision since Antony had earlier failed to muster adequate courage to take the proposal through, but an in-depth study of the need for such transport aircraft and similar ongoing aircraft related projects in the country indicates that the new government's first big acquisitions are marked by a familiar lack of planning and direction, suggesting that the bureaucracy and officialdom still calls the shots rather than a new, visionary leadership.

**The new government's first big acquisitions are marked by a familiar lack of planning and direction, suggesting that the bureaucracy and officialdom still calls the shots rather than a new, visionary leadership**

### Avro Replacement

Indigenisation and resolve to co-opt the private sector to achieve self-reliance in defence production is laudable, but this project has downsides that the defence ministry has ignored. First, the Air Force is wasting Rs 14,000 crore on replacing the Avro-748, which has been a bits-and-pieces aircraft without any real operational role.

Secondly, the production agency would incur exorbitant costs for a new production line, airfield and ancillary infrastructure that cannot possibly be amortised over 40 aircraft. Thirdly, the Avro replacement programme duplicates two indigenous programmes already under way to develop transport aircraft in the country.

The big ticket step was the decision to build six submarines in India at a cost of about Rs 50,000 crore rather than source it from outside. A committee was to be formed by the Defence Ministry to study both public and private shipyards and following this, the ministry will issue request for proposal to specific port that will be identified on the basis of the study which will look into whether they have the capacity and capability besides other parameters. It would be rather premature to read too much into the DAC decision regarding submarines, because the last time a BJP-led government was in power, its Cabinet Committee on Security had approved India's 30-year submarine building plan in July 1999. Under it, 12 new submarines were to be constructed with foreign collaboration by 2012, while another dozen were to be "built to indigenous design" in the 2012-2030 time frame. Fifteen years later, not one of the 24 envisaged submarines has been inducted, in what has become one of the most critical operational military gaps confronting the country.

In keeping with the policy of giving impetus to indigenisation of military hardware and the private sector, even the RFP for Rs 9,000 crore five fleet support ships would be issued to all public and private sector shipyards.



A Dornier surveillance aircraft deployed by the Indian Coast Guard (Getty Images)



A Scorpene-type submarine under construction at the DCN Shipyard in Cherbourg (Getty Images)

Though not necessarily all the proposals should have gone to the private sector, but there was a need to 'shake up' Ordnance Factory Medak, which has been asked to supply 362 infantry fighting vehicles. Going by the past performance, it is a foregone conclusion that Army will wait forever for these 362 vehicles because the average production output of OFB Medak has been a pathetic 20-30 vehicles a year against pending requirement of the Army of hundreds of infantry fighting vehicles and their variants in the last few years.

The quality of decisions taken and categorisation approved by DAC indicates government's resolve to promote indigenous production and integration of the private sector in defence manufacturing but indicate lack of any fresh thinking and visionary leadership in defence matters. These bold initiatives however, provide the much awaited opportunity to indigenous companies in the private sector and if they capitalise on these opportunities, sky will be the limit for their participation in defence production.

The recent proposals approved by the DAC should not be seen in isolation and need to be examined in light of various policy decisions or actions taken by the new government in defence procurement before arriving at a conclusion regarding direction being taken in defence matters and particularly, acquisitions.

**Appointment Of Defence Minister**

For almost six months, Arun Jaitley held the mantle of the crucial Defence Ministry as an additional charge raising serious concerns regarding the *inter se* importance being given by the new dispensation to security challenges facing the nation. Jaitley, due to his dual responsibility was not able to give due attention to defence matters

and therefore, let the bureaucrats run the show as hitherto fore. The Defence Ministry appeared to be adrift despite some big ticket approvals by the DAC. However, the choice of former Goa Chief Minister Manohar Parrikar, considered to be an able administrator, man of high integrity and undoubtedly one of the most articulate 'young' faces in the Bharatiya Janata Party, raises some hopes about the government's intentions to give due importance to this sensitive ministry.

**Revisiting FDI**

After the utter failure of the decade old policy of 26 per cent cap in which India received paltry US\$ 5 million FDI in defence manufacturing, the new government raised the FDI limit in the defence sector from 26 per cent to 49 per cent through approval route. It was also declared that the Cabinet Committee on Security could allow FDI beyond 49 per cent in proposals involving 'modern and state-of-the-art technology'. However, this provision appears to be inadequately addressed since no guidelines have been issued and no rules have been framed.

**Indigenisation and resolve to co-opt the private sector to achieve self-reliance in defence production is laudable, but this project has downsides that the defence ministry has ignored**

FDI limit determines the degree of control a foreign partner can exercise over the joint venture. Leaving aside a proportionate increase in the repatriable profits, there is little difference between FDI limits of 26 per cent and 49 per cent since in both cases, effective control remains with the indigenous company. Foreign vendors want FDI cap to be raised to 51 per cent or more to enable them to exercise control over the joint venture. In other words, raising of FDI limit from 26 to 49 per cent is a half-baked measure whose effectiveness remains suspect as foreign manufacturers may be reluctant to share their technological expertise unless given

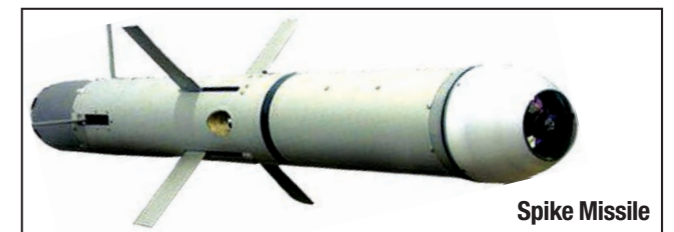
effective control. Although the policy initiative fell short of the expectations, it did show government's intent to open the defence sector to foreign investments.

**Industrial License**

The Press Note issued on 26 June 2014 stated that the items not included in the list would not require industrial license for defence purposes. Further, it was clarified that dual use items having military as well as civilian applications, other than those specially mentioned in the list would also not require IL from defence angle. Again in October 2014 another amendment clarified that the validity period of IL has been increased from 3 to 7 years by permitting two extensions of two years each. It also removed the stipulation of annual capacity in IL. The clarifications were a positive step by the government concerning the licensing policy.

**Blacklisting Vendors**

Almost every major Indian defence procurement contract gets mired in the allegations of wrongdoings and the government tries to demonstrate 'zero tolerance' for corruption by blacklisting the involved vendors. It is evident, that blacklisting does more harm to the national interests rather than the erring company's commercial interests and is a short-sighted measure. When the present government took over, Finmeccanica and Rolls-Royce were under scrutiny for alleged wrongdoings. Having suffered the adverse effects of banning some foreign companies like Bofors earlier, it was feared that their blacklisting would adversely impact all programmes in which the said companies were involved. However, the new government seems to have realised the futility of blacklisting and in a deliberate decision decided not to impose a blanket



Spike Missile

ban on Finmeccanica and its subsidiaries, but opted for a graduated approach, thereby safeguarding India's interests. All ongoing contracts with Finmeccanica and contracts in which the Finmeccanica companies are sub-contractors will be allowed to continue. Cases in which Finmeccanica has emerged as the lowest bidder (but contract not signed) will be put on hold till further orders. However, all Finmeccanica firms stand debarred from participating in any new defence tender. The Modi government deserves credit for realising that blacklisting is a short-sighted decision and should always be the last option.

**Conclusion**

An objective appraisal of the recent DAC approvals along with Modi government's policy initiatives and decisions relating to defence procurement in the first six months indicate some disjointed attempts to improve the situation, but leave a lot to be desired to bring about worthwhile changes which were expected of this government. So far it appears that Modi and his team does not have the requisite experience, expertise and vision in matters related to national security and defence modernisation. Let us hope the full time new Defence Minister ushers in the desired reforms along with efficiency and accountability and fulfills the expectations from the new government in the field of defence preparedness and modernisation of the Defence Services. **DSA**

# MOUNTAIN WARFARE

## Emerging Challenges For India

Post-1962, Indian leadership and the armed forces slowly turned Pakistan-centric in their threat perception, strategy and preparedness; forgetting the humiliation at the hands of Chinese and the vulnerable areas dotting the LAC. In fact, our priority should have been to prepare for Chinese threat; capability against Pakistan would have accrued by default.



India's unsettled and violent borders with Pakistan and China

Most of India's 15,200 km long land borders with her neighbours run through the mountains. The terrain offers a varied tapestry ranging from rolling hills to glaciated heights in extreme high altitude. Traditionally, in Indian strategic thinking, Himalayas were taken as impregnable frontiers; inducing an infectious complacency amongst the political and military leadership.

In spite of Himalayas being daunting for crusaders centuries ago, Indians should have peeped into the not too distant past and taken note of some of the trans-Himalayan expeditions. Tibet was attacked by the Dogras under Zorawar Singh (1841) and thereafter a British expedition under Francis Younghusband (1903). The surreptitious occupation of Aksai Chin by

Chinese during 1950s and construction of a road through it, connecting Tibet and Xinjiang, can be viewed as a continuation of cross-Himalayan adventures that history had already witnessed. These events had demolished the age-old strategic superstition, but we chose to remain wedded to this moribund concept of Himalayan impregnability instead.

With growing ambition of nations and infusion of technology in warfare, physical barriers and vagaries of weather – main deterrents to any military manoeuvre in the mountains have eased. Modern India's political leadership was slow to realise this fallacy till the debacle of 1962 jolted us out of the reverie.

The strategic imperatives for India to develop her mountain warfare capabilities are far too many and compelling to be ignored. A deeper study of



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the major issues is essential before we find the answers to the challenges that our forces face while battling the odds in the highest battlefields in the world.

### Pak-China Collusion

Since independence, the state of Jammu and Kashmir has been a bone of contention between India and Pakistan. Pakistan is in illegal occupation of approximately 90,900 sq km of its territory. During the 1950s, China upped the ante by occupying Aksai Chin in Ladakh. The incursion and laying of roads in that sector remained unnoticed by Indians till 1958. It was when the balloon went up in 1962, that Chinese troops used this bridgehead into Indian territory for a westward thrust. The area remains under occupation till date.

Pakistan had ceded the control of Shaksgam Valley to China in 1963. China has built Karakoram Highway linking Kashgar (Xinjiang) with Hasan Abdal (Pakistan) through Gilgit-Baltistan (formerly Northern Areas) region of Pakistan-occupied Kashmir (PoK). Of late, presence of 7,000 to 11,000 People's Liberation Army (PLA) troops and a large Chinese workforce in Gilgit-Baltistan has been reported. There are reports to suggest that Pakistan is also planning to lease out this region to China. India is thus faced with an illegal joint occupation of J&K by Pakistan and China and a possible collusive threat from them in future conflicts.

Ladakh is connected by roads Srinagar-Zoji La-Leh and Manali-Rohtang La-Leh. These arteries remain closed during winters and road Srinagar-Zoji La-Leh, as Kargil conflict showed us is vulnerable to enemy interference. One of the possible reasons for Chinese assertion in area Chumar may be due to its proximity to Manali-Leh road. The deployment of Indian troops on Siachen Glacier is the only wedge that prevents Pakistani and Chinese troops from shaking hands in Ladakh.

Of India's land borders with Pakistan most of the Line of Control (LoC) and the entire stretch of actual ground position line (AGPL) in Siachen Glacier runs through mountainous terrain – treacherous on account of terrain and weather patterns. The border is heavily militarised and has been in a state of

'no war-no peace' due to frequent spurts of violence. Pakistan, choosing to use terror as an appendage to statecraft has been waging 'proxy war' in J&K through the terrorists. There are a number of terrorist training camps, staging areas and their launch pads across the LoC. Despite Indian Army's best efforts at counter-infiltration and terrorism, the problem has been festering since 1990s and has claimed innumerable lives in the state. The situation has led to disproportionate Indian military assets being tied down in a counter-insurgency and infiltration deployment, resulting in voids or scant deployment of troops along the Line of Actual Control (LAC) with China. In fact, the security of remote corridors in central and eastern sectors of the LAC remains the responsibility of Central Armed Police Forces – Indo-Tibetan Border Police and sprinkling of Special Frontier Force troops, in this instance.

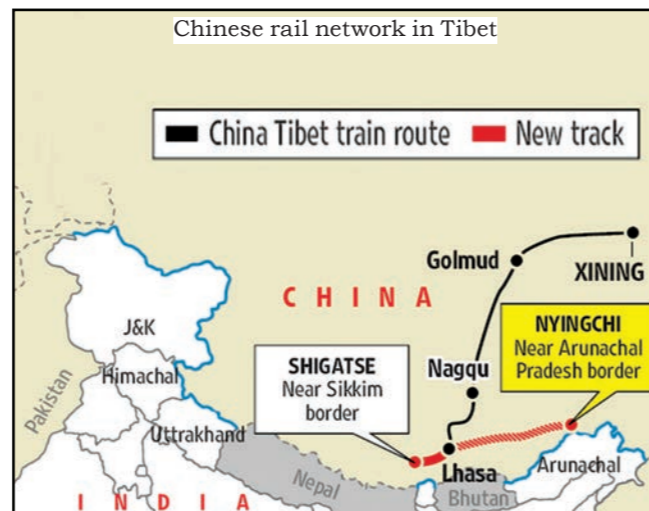
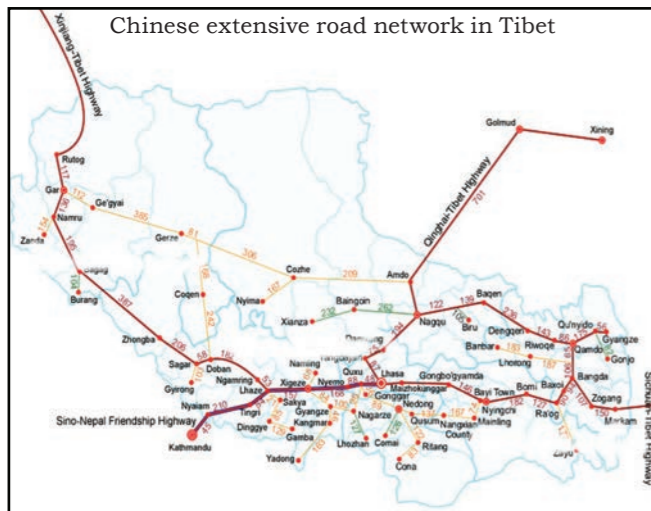
### Chinese Designs

Chinese focus on Pakistan and PoK are a part of her long-term geostrategic move to ensure energy security, inter-theatre movement of forces and tie down India by posing a looming threat along the LAC from Karakoram Pass in Ladakh to tri-point in Arunachal Pradesh. Likely aims of its forward posturing in Ladakh could be to clinch adequate depth to the Tibet-Xinjiang highway, threaten Leh and outflank military infrastructure along the LAC. In the east, designs are more sinister ie to sever Siliguri corridor through Chumbi Valley and isolate India's northeast.

Frequent diplomatic assertions on her border claims and PLA's nagging appearance at various locations along the LAC are part of China's game plan to keep the border issue unsettled and retain the initiative to escalate it in future. In the absence of any clarity over the LAC alignment, Indian troops are faced with a situation wherein incursions by PLA troops, 10-20 km inside Indian territory, are being soft-pedalled. Also, unlike the LoC and AGPL there are inadequate field fortifications for troops to hold ground and fight.

### Eroding Buffers

Of the Himalayan states, while Chinese influence over



Nepal has grown considerably, India's has waned. Nepal has opened its frontiers and markets to China. It can no longer be taken as a buffer state between India and China. Whereas, Bhutan due to its pro-India stance faces China's ire which nurses grudge and border disputes against it.

Along India's north-western and northern borderlines in J&K, three nuclear-armed nations are vying to further their geostrategic interests. In the eastern sector China's claim on Arunachal Pradesh (Southern Tibet for Chinese) is equally preposterous. Similar situation may arise if China stakes claim on Bhutan's territory or poses an existential threat to it. India would have no option but to intervene and protect Bhutan.

Indian Army's tryst with mountains is age-old. It has fought with distinction in the World Wars and in other conflicts. Post-independence, Army's very first assignment - to save J&K from Pakistani aggression was in the mountains. Overcoming many operational and administrative challenges, Army was able to wrest a major portion of the state from Pakistan.

**Lessons From 1962**

Sino-India War of 1962 was a debacle. Amongst other things, it exposed our inept strategic thinking and poor preparedness to fight a conventional war in the mountains. India, despite such a humbling experience, did not initiate adequate strategic measures except for the raising of some mountain divisions, which got sucked into fixed defences along the LAC or in counter-insurgency role in the northeast. The logistics arteries and development of the border areas remained unattended, while China built vast road networks, rail links with Qinghai-Lhasa-Xigaze and a host of airfields on the Tibetan plateau. Due to improved connectivity and available force levels China can mobilise up to 34 divisions in Tibet and has attained flexibility of switching forces from Ladakh to Arunachal Pradesh. Thus while the Chinese enhanced their capabilities to exponentially augment

force deployment, we allowed our combat preparedness to slide downwards.

**Tackling China First**

Post-1962, Indian leadership and the armed forces slowly turned Pakistan-centric in their threat perception, strategy and preparedness; forgetting the humiliation at the hands of Chinese and the vulnerable areas dotting the LAC. In fact, our priority should have been to prepare for Chinese threat; capability against Pakistan would have accrued by default. Certain factors could have abetted this strategic shift. 1. As China concentrated on its consolidation and development, barring minor skirmishes, peace prevailed on the LAC inducing complacency. 2. India fought wars with Pakistan in 1965 and 1971 with reasonable success, which helped the nation to bury the ghost of 1962. 3. Since 1990s Pakistan had been a major preoccupation for Indian leaders and armed forces due to its involvement in anti-India activities, preventing us from paying attention to China. 4. Recapture of real estate grabbed by Pakistan and China in J&K is considered near impossible by political and military leadership unequivocally, breeding a sense of *fait accompli*. 5. Idea of pacifism to settle border disputes gained currency during successive governments, though without any tangible results.

**Siachen Pre-emption**

Pakistan-centricity led to developing a skewed national security strategy in which Chinese threat was not factored in adequately. The 1965 and 1971 Wars with Pakistan only saw localised actions in the mountains, wherein posts along the LoC were either captured or lost. No major offensive was undertaken through the mountains. However, 1984 was a watershed, when Indian Army in a surprise move pre-empted Pakistan by occupying Siachen Glacier. Despite heavy odds and casualties, the Army is operating on the highest battlefield in the world. Its formidable posture has repeatedly beaten back efforts by the Pakistanis to overrun the defences.

Our organisational inadequacies and misplaced belief in inviolability of LoC set the stage for a major intrusion by Pakistan Army in Kargil and Drass sectors in 1999. Indian Army was able to repel the intruders. Kargil War was a localised conflict; still it extracted a huge human cost, despite international pressure on Pakistan to withdraw its forces.

Ironically, our major engagements in the mountains have been fought by infantry, lacking in support from the Air Force. In 1962, India chose not to use Air Force for the fear of conflict escalation. Similarly, Kargil War was fought under the self-imposed restriction of not crossing the LoC by troops and aircraft.

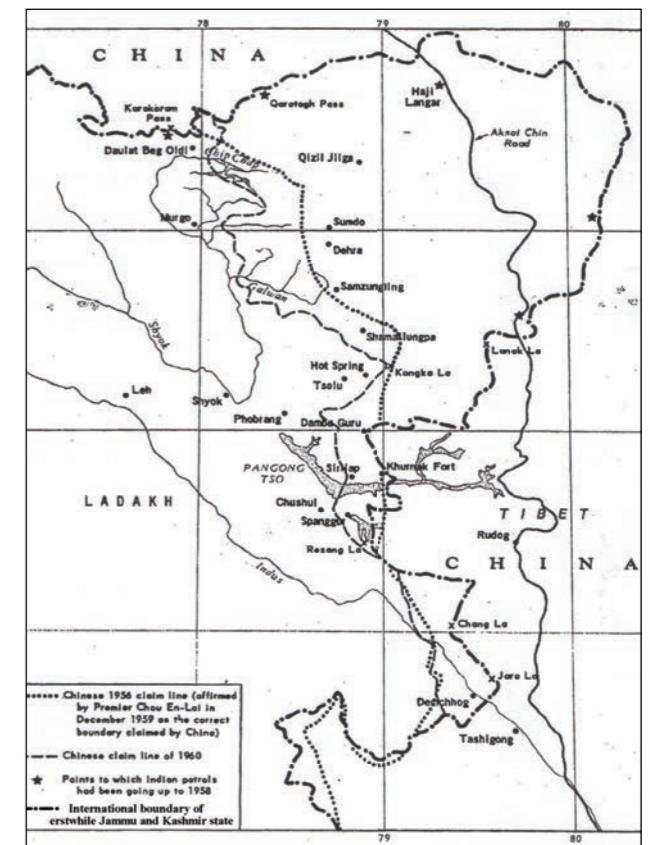
**Capacity Building**

"Mountains eat up troops", is an old military dictum. Be it the defensive or offensive role an army needs larger numbers of boots on ground as compared to plains or deserts. Underdeveloped terrain and poor connectivity exacerbates the situation. Current force levels of our army, suffer from a lack of uncommitted reserves for restoring an adverse situation or launching offensive. The situation is particularly challenging in the central and eastern sector of LAC, where troops' deployment is sparse and road communication underdeveloped. Movement of reserves and logistics is a major problem.

The force levels, especially for offensive operations, need accretion. While raising of the mountain strike corps is a sound decision, the timelines for its raising need speeding up. With two mountain divisions already raised and the mountain strike corps under raising the forces' imbalance with Chinese is still worrisome. We have to review our appreciation of Chinese capabilities of employment of their forces in Tibet based on their current road and rail network and accordingly review our deployments to stop them and carry the battle into Tibet.

The immediate requirements for ably guarding our territorial integrity with assurance are many. The first and foremost among these is the necessity of building a road and rail infrastructure linking the border areas on LAC with the hinterland for logistics to move forward. Inter-state connectivity for force deployment and redeployment is required to reduce the sectoral isolation. The lay of Tibetan plateau is such that Chinese can build road or rail link almost parallel to the LAC. Whereas, the Indian side, is interspersed with valleys running north-south - laying of a road parallel to LAC may not be possible. Experts are already raising doubts over the feasibility of execution of recently announced 1800 km long highway project in Arunachal Pradesh intended to connect Tawang, East Kameng, Upper Subansiri, West Siang, Upper Siang, Dibang Valley, Desali, Chaglagam, Kibithu, Dong, Hawai and Vijayanagar border areas of the state. Similar situation exists in the central sector in the state of Uttarakhand.

Air mobility, availability of both fixed and rotary wing assets and landing grounds are



Moving the goalposts: Chinese claim lines of 1956 and 1960 in Ladakh

equally essential. The current fleet of helicopters is not capable of deployment for a protracted battle. Improvement in communication will also serve to draw our citizens inhabiting these states into the mainstream of Indian economy.

Our equipment state requires to be addressed with the greatest dynamism. A country that successfully launched a mission to Mars, has so far failed to produce an ordinary assault rifle. Huge gaps in our artillery capabilities, reconnaissance and surveillance require immediate attention. The requirement of unmanned aerial vehicles and their armed variants need to be met. Our communications are based on fairly obsolete backbones that are prone to interference. Communications in mountains is inevitably a challenge. Chinese advancement in cyber warfare must not be lost sight of. Assured communication is important for conduct of battle. We need satellite based communications down to the company level. Special Forces will need state-of-the-art equipment.

India finds herself in a very unenviable position. Unsettled borders with two nuclear armed arch enemies, relentless rivalry for gaining a strategic advantage, threat to national sovereignty and sheer enormity of the situation in terms of resources and infrastructure needed are some of the major challenges that the country is faced with while it starts to offset years of strategic complacency. **DSA**

# PRIVATE SECTOR IN DEFENCE INDUSTRIES

A step towards ensuring long-term continuity and cohesiveness will be to constitute an empowered Defence Industries Board under the defence minister to supervise the privatisation and the working of the defence industry. Ordnance Factories, DRDO units, defence PSUs and private sector companies working in the defence sector must come under the purview of this board. It should be ideally headed by a three star military engineer with long experience in our defence industries. Subsequently, this officer can be appointed as the first military personnel to hold the post of Secretary Defence Production.

The new BJP government has taken over recently and it is felt that they are pro Services and therefore expectations are very high. Several options are being explored to kick-start an ailing Indian defence industry by increasing the FDI to 49 per cent and also by giving a major role to responsible private sector companies. It is seen from history that the countries involved in the World Wars have gone through at least three to four generations of evolution in all major weapon systems. Similarly there has also been an evolution in the administrative structures and management principles applied in defence industries.

An effort is made to critically examine the prospects of credible private sector companies playing a leading role in the Indian defence sector. Today many of our companies are global players, competent in the field of technology, management and finances. A step-by-step privatisation of our defence industries is explored by analysing the different approaches in use by the nations of the west. In order to enable consistency in requirement, development / procurement and ensure continuity of production of weapon systems, it is felt that a single point interface be created between the military – the end user and the industry – the manufacturer.

## Why Private Sector?

The foundation of our defence industries was laid during the mid 60s after the humiliating encounter with the Chinese. It took root, started to sprout well with the Services and the industry working together in harmony. Humble but meaningful projects were undertaken which started bearing fruit by the late 70s. However from the mid 80s onwards MoD took a series of decisions as if it had made up its mind to destroy our defence industries. This includes untimely cancellation of promising

projects at HAL, closing down of small units like the Gun Development Team, Jabalpur without any reason and stopping the intake of Permanently Seconded Service Officers (PSSO) to DRDO. Over a period of time the trust link between the Services and industry was lost. MoD pursued a policy of indiscriminate off the shelf purchase of weapon systems from abroad, which further demoralised and destroyed the indigenous capabilities.

## Tank Production Strategies

Modern military weapons use a wide array of technologies. These diverse technologies have to be grouped to make a particular weapon system. In order to explain this, the battle tank as a weapon system which is neither too elementary nor too complex has been taken as an example. It is essentially a scaled up automotive system with the addition of a main gun, armour and sophisticated communications and control systems.

Apart from UK, USA, France, Germany, Russia and China, countries like Brazil, Japan, Italy, South Korea and Israel have made their own tanks. At least one person during the 1950's felt that India should have a tank of her own. That was the great JRD Tata.

The British post war tank development programme started in 1960 with the *Chieftain* which was introduced in 1967. By 1983 they produced the *Challenger MBT*. The tank development was undertaken by Military Vehicles and Engineering Establishment (MVVEE) and manufactured at Royal Ordnance (RO), Leeds. Since we copied the British pattern, the Indian equivalents are CVRDE and HVF. The British Army supervises all development activities. Now these government establishments and factory have been handed over to BAE and Vickers Defence Systems which are private companies.



**COL AG THOMAS  
(RETD)**

The writer was commissioned in EME prior to the 1971 War and later seconded to DRDO. He served DRDO for 22 years in various capacities in different establishments. He was posted to the HCI, London in a diplomatic assignment as Deputy Technical Adviser (Defence) – accredited to most West European countries and USA. Subsequently he was posted at CVRDE, Avadi and also as Registrar Academics and head of General Staff (GS) branch at the Institute of Armament Technology (IAT), Pune, India.

After the *Sherman* and *Patton*, the US started development of the *M1 Abrams* during the 70s. By 1985 they introduced the *M1A1* which has a 120 mm smooth bore main gun imported from Rheinmetall Germany and uses the British Chobham composite armour. It is powered by a 1500 hp Advanced Gas Turbine engine supplied by Avco Lycoming, an American company. The US approach has been to bring in sub-systems from their allies, which saves a lot of development time and effort. The tank production facilities are owned by the US government and operated by General Dynamics as the present contractor.

The French modern era tank development programme started in 1960. In 1987 they introduced the *AMX 56 Leclerc*, which is now in the league of the best battle tanks in the world. One can say that *Leclerc* is 100 per cent French being developed and produced by Groupement Industriel de l'Armement Terrestre (GIAT), similar to a government owned defence PSU that has now been partly privatised and is called Nexter. The *Leclerc* has a 120 mm smooth bore main gun made by GIAT. It is the only western tank with an auto loader like the Russian *T-72* and *T-90*. The main armour is indigenously developed and it is powered by a 1500 hp Hyperbar diesel engine supplied by the local firm, Uni Diesel. The French produced this hi-tech tank in four steps over a 27 year period and it shows the nations' commitment at achieving self-reliance in this critical sector and determination to catch up with the best in the field of technology.

## German Resurrection

As per the WW II surrender treaty Germany was not allowed to develop or manufacture weapons systems for twenty years. During this period (1945-65) they had done their homework well

and by 1965 produced the *Leopard 1*. Subsequently by the 80s the *Leopard 2* was introduced. German tank development is completely undertaken by private companies under the Army's supervision. *Leopard 2* has a 120 mm smooth bore main gun manufactured by Rheinmetall to NATO specifications. MTU supplied the 1500 hp diesel engine and Renk developed a matching transmission. System integration and final assembly is done at KraussMaffei factory. Apart from these corporations, a large industrial base has been nurtured which includes MBB, Bosch, Krupp etc. At every stage the industries were supervised by the Army and satisfied their qualitative requirements (QR) and quality assurance (QA) standards.

In principle, each of these tank making nations follow their own independent **philosophy of design and manufacturing**. They adhere to their individual **technological convictions**. This is evident from the fact that only the British continue to use a rifled main gun and have used hydro-pneumatic suspension for their tank. The *Abrams* alone is powered by a gas turbine engine, whereas all the others have opted for diesel engines. The defence industries of these nations employ different strategies towards the common goal of making a world-class modern tank. This includes government factories and defence PSUs, government owned contractor operated arrangement (GO-CO) and also completely private sector initiatives.

## Our Defence Industries

Today our defence industries comprise of about 40 ordnance factories, 54 DRDO labs, 8 DPSUs, the inspection and quality assurance organisation



and a few private sector companies. Normally, the R&D units are considered to be the prime movers of the defence industries, where soldiers, scientists and engineers work together to develop weapons. A disconnect and trust deficit between the military, DRDO and Defence Production and a **lack of a clear weapons development philosophy** are the primary reasons for the failure of the system. The government sector units have been plagued with several problems such as inefficiency, lack of competent leadership, discontinuity of projects and personnel, inflated costs, time overruns and a severe lack of transparency, accountability and coordination. This is largely a result of the divisive, short sighted and unhealthy management structures that have over time eroded the functional effectiveness of the combined entity.

Our private sector on the other hand has followed a self-regulated functioning that has sometimes forced companies to adapt and change to survive in the hyper-competitive marketplace. This is only possible with a highly trained, competent and motivated management team that provides excellent leadership at all levels. A well-articulated sound strategy provides direction and growth. Several Indian corporations have done exceedingly well on their own steam in the last few decades, establishing a global reach and acquiring an admirable level and array of capabilities. Sectors such as automobiles, pharmaceuticals, information technology etc have produced strong players rivalling the best in the respective fields.

An efficient defence industry should be able to translate the requirement of the Services and produce them in large numbers, cost effectively in the shortest possible time. In order to achieve this, the high calibre human resource asset from the private sector must be generously injected into the existing defence industries so as to bring them on par quickly. DPSUs, Ordnance Factories and DRDO units could be logically grouped and put under the management of **responsible domestic private sector players** having sufficient prior experience with our defence industry, on a long lease format. This will have several advantages. It would prevent duplication of assets or infrastructure and avoid unnecessary local competition which at this nascent stage of the new defence industries will only increase cost and create confusion. It will ensure the interest of all stakeholders, guarantee existing jobs and generate further employment. It would also readily provide proven leadership, high accountability, quicker translation of ideas into cost effective weapons and produce civilian spin-offs for society at large. Moreover an integrated entity would achieve sufficient critical mass and robustness to protect from external threats and better serve the national defence effort in the long-term.

**Weapon Technologies**

Weapon systems employ a wide spectrum of technologies. To achieve a sharper focus on specific

systems, countries have grouped their assets along different models. In order to get a clearer picture of this, the example of how France and USA have organised their tank production has been taken. Translating this to the Indian defence industrial context, these two patterns have been substituted with their Indian counterparts to demonstrate a similar logical grouping of weapon technologies.

**French – GIAT Model**

In France the defence technology spectrum is divided into land, air and sea based systems. GIAT is a conglomerate of the French Armament Industries for Land based systems. This group manufactures the entire range of weapons from guns, ammunition, armour to complete battle tanks and other wheeled and tracked fighting vehicles. Projects are conceived and developed by soldiers, scientists, engineers and industrial employees of GIAT and supervised by an inter-Service team of project managers.

If Indian assets are grouped as per the GIAT model, it will include R&D units like CVRDE, VRDE, ARDE, HEMRL and DMRL. Ordnance Factories like HVF, VF (Jabalpur) and VF (Medak). Ordnance Factories manufacturing weapons like small arms, rifles, artillery guns etc. Ordnance Factories manufacturing propellants, explosives and ammunition for the entire range of weapons including Heavy Alloy Penetrator Plant (HAPP), which is manufacturing the latest anti-tank ammunition, connected PSUs like BEML, MIDHANI etc. Together this group would be of about 50-60 units, which is more than 50 per cent of our defence industries.

**US – TACOM Model**

USA has grouped the entire array of defence technologies into more than a dozen weapon system commands like the Tank-Automotive Command (TACOM), Artillery Command, Missile Command etc. TACOM is responsible for all activities connected with main battle tanks, light tanks, APCs, other tracked and wheeled fighting vehicles and also wheeled logistics vehicles. It is responsible to develop, procure, distribute and provide engineering support while the weapon is in service.

If Indian assets are grouped as per the TACOM model, it will include R&D units like CVRDE and VRDE, Ordnance Factories like HVF, VF (J) and VF (M). Connected tank ammunition factories including HAPP, PSUs like BEML, MIDHANI etc. Together they will comprise of about 10-12 units.

**Stagewise Privatisation**

The Indian Armed Forces and the MoD have very little experience in large scale utilisation of the private sector in defence industries, except the Vehicle Factory, Jabalpur which used to manufacture Nissan and MAN trucks under license. Now Ashok Leyland is manufacturing trucks in this factory. Therefore, it could be tried out in an incremental step-by-step approach in a limited area to begin with. If both parties are satisfied with the outcome of this experiment,

the role can be extended to wider areas.

The French GIAT model involves grouping more than 50 per cent of our defence industries ie about 50-60 units (a mix of R&D, PSUs and Ordnance Factories) spread all over India. The second option is to follow the American TACOM model which involves less than 10-12 units which are again widely spread. Extrapolating from these two options one can arrive at a third. This consists of just two units of our defence industries, namely CVRDE and HVF, both located in Avadi about 30 km from Chennai.

The next step would involve the actual handover of these two units to the private sector. An outright sale of the establishments with their defence estate comprising of hundreds of acres of land is one option. The second option is to enter into a long-term lease contract which is acceptable to both parties. As in the TACOM model, the permanent assets will continue to be owned by the government and the private sector will manage these units or a part thereof as the contractor. This will keep the current T-90 production undisturbed.

The Indian Army, Navy and Air Force are all professional services, secular and apolitical. They have their own doctrines of war which must be shared with their new partners (private sector) at an appropriate time. Commanders of military operations, technical officers (in service and retired) with long and varied experience in the defence industry and managers from the private sector participating in defence should jointly formulate a clear **weapon system development philosophy** based on our threat perception, economic constraints, strategic requirements, technological strength and weakness.

**Implementation**

**Short Term – Single Point Interface between Military and Industry:** The Army, Navy and Air Force have until now been unable to combine their technical thinking process and assets in a unified manner. It is felt that a single point military interface with industry is essential for establishing a clear, healthy and productive two-way communication between the end user and the manufacturer. In order to facilitate this it was suggested to create a **Common Technology Hub (CTH)** for the Forces [DSA, April 2014]. The head of the project management wing at the CTH can be Director Military Projects, the single point contact on behalf of the Army, Navy and Air Force.

Similarly, we have to create a single point interface for the private sector. It is felt that the domestic private sector companies that have worked on weapon projects and have a long association (about 10 years) with the defence industry and

proven credibility like Tata, L&T, Mahindra, Ashok Leyland, Pipavav etc could form a consortium or float a new company with a Chairman and a senior working level person nominated as the single point contact on behalf of the private sector companies. This consortium could form the core of the private sector in defence industry with individual joint ventures of the founding partners and foreign arms manufacturers occupying successive outer rings. This arrangement will reduce the procurement process bottlenecks or inconsistencies created by the influx of multiple companies and ensure that the most sensitive information / technologies remain fully within control of Indian firms. Safeguard of sovereignty must underlie all activity in the defence business.

**Long Term – Defence Industries Board:** The gestation period for aircraft carriers, fighter aircraft, main battle tanks etc are typically 10-15 years at the very least. Keeping in mind the current level of our advanced technological capabilities, a realistic time frame for the indigenous development and production of an array of effective frontline weapon systems will require dedicated sustained efforts in the 20-25 year range. This encompasses four or five terms of a government in office, which going by past experience is inherently unstable and may not perpetuate long-term policy.

A step towards ensuring long-term continuity and cohesiveness will be to constitute an empowered **Defence Industries Board** under

the defence minister to supervise the privatisation and the working of the defence industry. In addition, this board could give direction, accountability, integration, arbitration and protection from diluting or dismantling of our defence priorities and objectives. Ordnance Factories, DRDO units, defence PSUs and private sector companies working in the defence sector must come under the purview of this board. It should be ideally headed by a three star military engineer with long experience in our defence industries. Subsequently, this officer can be appointed as the first military personnel to hold the post of Secretary Defence Production [DSA, February 2012].

**Conclusion**

Privatisation of defence industries is a bold step on the part of the new government. They have to demonstrate their strong 'political will' and commitment in implementing this task securely. It requires frequent and sustained direct supervision by the defence minister and periodic updating of the Prime Minister, till the process takes root and establishes well. Our political leadership, bureaucracy, military and the private sector in defence cannot afford to make any mistake this time as our defence industry is at its lowest and our neighbours on the north as well as on the west are unpredictable.

**DPSUs, Ordnance Factories and DRDO units could be logically grouped and put under the management of responsible domestic private sector players having sufficient prior experience with our defence industry, on a long lease format**



# INDIAN ARMY

## Moments of Glory



An eight-member team led by Major Lalit M Joshi of the 8th Battalion of the Garhwal Rifles of the Indian Army won the gold medal at the Exercise Cambrian Patrol 2014 considered to be the toughest military exercise to test the physical and mental strength and battlefield knowhow of infantry soldiers. The exercise was held in the Welsh Cambrian Mountains in October, 2014. It is an international honour well-deserved for the battalion. But it needs to be put on record that the benchmark for grit, guts and determination in battlefield conditions for Indian troops is the manner in which they cleared the Kargil heights in Jammu and Kashmir of Pakistan Army intruders in 1999.

### Kargil Saga

The Pakistanis had all conditions in their favour – the element of surprise, the high ground, man portable air defence *Stinger* missiles purloined from American

supplies intended for the war in Afghanistan in the 80s and pre-fabricated pillboxes from where the Northern Light Infantry of the Pakistan Army could shoot down at Indian troops climbing up steep slopes to dislodge the intruders. But dislodge the Pakistanis they did, sending hundreds of dead soldiers to a Pakistan that was too ashamed to accept them with military honours reserved for soldiers killed in battle. Their bodies were sent furtively, at the dead of night, to their families.

Exercise Cambrian Patrol is an annual test of infantry skills started by the 160 (Wales) Brigade of the British Army in 1959. It was designed by the Welsh Territorial Army to put participants to a gruelling regimen of carrying 30-kg backpack across 50 miles in less than 48 hours, negotiating marshland, streams with the bite of Christmas chill and hilly terrain while executing infantry tasks along the route with “degrees of difficulty” primed each year to meet modern



warfare requirements and knowhow garnered from current battlefields.

The obstacles and infantry skills set up along the course included traversing the mandatory enemy minefield; map-reading made formidable by the cold, foggy marsh weather; medical evacuation procedures; identifying friend from foe travelling by air and land vehicles; directing artillery gunfire to target as accurately as the weather and terrain would allow; crossing an icy stream with full backpack while ensuring that the rifle remained dry and ready to use as soon as one had made the crossing; reconnaissance mission targeting an anti-aircraft gun position; the finale being a shooting competition with personal weapons to see how much the exertion had affected the ability to shoot straight. Mixed with all this are communications skills and handling the media.

### Increasing Participation

The 2014 Exercise Cambrian Patrol attracted 119 participants one-third of whom could not finish the course. As chief organiser Martyn Gamble put it: “It is a testament of how much of a challenge this is. I am entirely comfortable that only about four per cent of all teams achieved gold. Those people who achieved a finish or a medal should be applauded”. Up for grabs are a gold, silver, bronze and certificate of merit.

### Team Selection

The Indian team was selected from out of competitions between infantry units. The selected team was sent to the Infantry School, Mhow, for updating infantry skills and they spent a month building stamina and learning mountain folklore. The winning team led by Major Joshi flew off for Wales on Diwali day. They were taken under the wings of the “host battalion”

1 Grenadier Guards at Aldershot where the team was familiarised with the communications equipment, weapons and procedures they would be required to follow during the competition. Indian teams have won a gold and a silver in earlier competitions.

### All-women Team

The highlight of the 2014 Cambrian Patrol was the participation of an all-women team from the London University Officer Training Corps. It won a bronze medal and reopened the “women in combat” debate (dealt with in the **DSA** edition of March 2014). Judging from the published photographs of the team, physique was not really a handicap because there were some members who were nearly six feet tall and at least two who looked just a few inches above five feet. Nonetheless, the fear of Indian female combatants falling prisoner at the hands of an army like that of Pakistan with a penchant for unspeakable mutilation of enemies is very real. Within the last few months India had to experience ghastly acts perpetrated by Pakistani troops.

**It needs to be put on record that the benchmark for grit, guts and determination in battlefield conditions for Indian troops is the manner in which they cleared the Kargil heights in Jammu and Kashmir of Pakistan Army intruders in 1999**

A Pakistan Army team won a gold in Cambria in 2010 signifying that it has the brawn but not the ethos that govern the rules of engagement in warfare. Such mutilations could fall within the purview of violation of Human Rights or War Crimes given how Nuremberg trials were conducted to deal with such activity during World War II and more recently in the former Yugoslavia.

There are several other military excellence competitions that claim to be the “most difficult”. One such is the Erna Raid conducted by Estonia commemorating a military operation by that name during World War II. The Air Mobility Rodeo organised by the US teams involved in that particular air activity. The Fincastle Competition involves air forces from around the world and the Canadian Army Trophy brings tank crew from armoured regiments worldwide.

Some military institutions have become synonymous with physical excellence like the Navy SEALs of the US, The Special Air Service (SAS) of the UK, the notorious Green Berets and Rangers of the US Army and the almost mystical French Foreign Legion.

During the Kargil War the final assaults on the high ground occupied by the Pakistan Army Northern Light Infantry including Tololing and Tiger Hill involved troops from 2 Rajputana Rifles, 18 Grenadiers, 18 Garhwal Rifles, 12 Jammu and Kashmir Light Infantry, 13 Jammu and Kashmir Rifles, 108 Medium Regiment and 11 Gorkha Rifles. How does one choose the best among such valiant warriors? **DSA**



# MONSTER DEVOURING THE MASTER

In Pakistan, killing has become a sport, as tolerated by it. Now the Monster has gone out of control and has started pouncing on its masters. The reason of this change of heart on the part of Pakistan, is not the sudden change in approach to fight terrorism, but the fear of the politicians for a coup as most children belonged to Army Officials.



TTP Chief Maulana Fazlullah

Attack on an army school in Peshawar

**B**ible says that those who live by the sword die by the sword. Pakistan reared the Taliban and other terrorists groups, in the hope, that they would do their bidding all the time, forgetting the old story, that a lion came to live at the feet of a cat, in learning all the tricks and cunningness from it. The lion felt hungry and first wanted to finish the cat, so that nobody else could learn her tricks. The cat jumped and climbed the nearest tree. The lion was furious at the cat, who claimed to have taught him all the tricks of the trade. He ruminated with her, that she misled him and not taught the art of climbing a tree. The cat said she had to have something up her sleeves, against the dirty tricks by the lion and others of her kind.

This is what exactly happened, when the so called Taliban or other terrorists, killed, 145 persons, including, 132 school children in Peshawar Army School, in December, 2014. It shocked Pakistan as they did not expect it from the Taliban, who were playing the Official Pakistani Games against Afghanistan and India. The Tehreek-e-Taliban Pakistan, has proudly claimed responsibility for the gruesome killings. Pakistani Army has been so incensed and fuming that in Bombing of Waziristan, a province of Pakistan, it has killed more than 59 alleged Taliban, the next day.

It is a shortsighted policy, of the successive governments, that Pakistan never realised, that a day would come, that the same terrorist groups would turn against it, as its pet children, the Taliban, have done. A US Secretary of State had warned Pakistan years ago that if it nurtured snakes (terrorists) in its backyard, it must not expect those snakes to bite only Pakistan's neighbours (India and Afghanistan), but may bite it.

Shaken by the Taliban terror attack in which 145 people, including 132 school children, were killed in Peshawar on Tuesday, the 16th December, 2014, Pakistan on 17th December pledged to announce a "national plan" to tackle terrorism within a week. The Prime Minister of Pakistan Nawaz Sharif proclaimed "Our aim is to clean this region of terrorism. Not only Pakistan and Afghanistan, but indeed this entire region should be cleaned of terrorism," he told an All Parties Conference in Pakistan. "We announce that there will be no differentiation between 'good' and 'bad' Taliban, and resolve to continue the war against terrorism till the last terrorist is eliminated," said Pakistani PM, marking the end of any hope of talks with the terrorist organisations, at least for the present.

In another important decision, the government of Pakistan lifted a self-imposed moratorium on death penalty in terror related cases.

Pakistan Army chief has been sent to Afghanistan to seek extradition of Tehreek-e-Taliban (TTP) Chief Maulana Fazlullah, whose group claimed responsibility for a deadly attack on an army school in Peshawar left nearly 150 people, mostly children, dead. Most of the children were shot dead point blank in the head. The attack, claimed by the Tehreek-e-Taliban Pakistan (TTP) as revenge for a major military offensive in the region, sparked condemnation worldwide and led the Pakistani government and military to reaffirm their determination to defeat a group that has killed thousands since it began its insurgency in 2007. A report says that the Army chief will seek the Afghan military's cooperation for "a joint operation to counter terrorism and eliminate militants hiding inside Afghanistan". Pakistan so far has been hunting with the hounds and running with the hares.

To quote some major incidents on October 19, 2007: At least 139 people were killed in suicide bomb attack on Benazir Bhutto's motorcade as the former PM was driven through Karachi after arriving home from eight years of exile.

November 24, 2007: Twin suicide car bomb attacked and killed 15 people in Rawalpindi, on the eve of the return of former PM Nawaz Sharif from exile in Saudi Arabia.

December 27, 2007: Benazir Bhutto was killed in a gun and bomb attack after a rally in Rawalpindi. At least 16 others were also killed.

The then Secretary of State of USA, Hillary Clinton waded into the issue, demanding that Afridi be released, because "his help was instrumental in taking down one of the world's most notorious murderers that was clearly in Pakistan's interest as well as ours and the rest of the world".

"There is no shared interest against Islamic terrorism," Rohrabacher another Senator said. "Pakistan was and remains a terrorist state."


"We need Pakistan, Pakistan needs us, but we don't need Pakistan double-dealing and not seeing the justice in bringing Osama bin Laden to an end," Lindsey Graham, a Republican Senator who pushed for the additional cut in aid said, while calling Pakistan "schizophrenically".

Following Afridi's sentencing, California Congressman Dana Rohrabacher said, "This is decisive proof Pakistan sees itself as being at war with us". The fact is that all countries in the world go by their immediate interest that two wrongs cannot make one right.

Even the Americans gave full support in money and weapons and considered the Taliban, as freedom fighters when they were fighting against the Soviet Communists. When the Soviet Union collapsed and its forces withdrew from that Central Asian country, the Taliban no longer remained

strategically important to the Americans. The war on behalf of the Americans behind battle-tested men and plenty of latest weapons, had no more jihad or holy war to fight, so many of them, went to work for Pakistan especially on Kashmir front and the rest of India.

The clout of so called Taliban can be seen from the fact that then Prime Minister Gillani signed a peace deal on May 21, 2008 with Taliban in Pakistan's Northwestern valley, calling for, among other things, the withdrawal of Pakistani troops from the tourist region of Swat and the imposition, of Sharia or Islamic law there, according to a report. In Pakistan, killing has become a sport, as tolerated by it. Now the Monster has gone out of control and has started pouncing on its masters. The reason of this change of heart on the part of Pakistan, is not the sudden change in approach to fight terrorism, but the fear of the politicians for a coup as most children belonged to Army Officials. Who knows, whether this incident may lead to the toppling of the government. Pakistan is now ostensibly worried about stopping terrorism. The easiest way for it is to stop encouraging and participating in it. Let it understand clearly that the object of terrorism is terrorism. The object of oppression is oppression. The object of torture is torture. The object of murder is murder. The object of power is power. How do you defeat terrorism? Don't be terrorised and finish it and wipe off till the battle is won. Half measures and statements won't do. The state itself is based on power. Mao Tse-tung was right and his doctrine in dealing with the terrorism that "Power comes out of the barrel of a gun" is valid in the present context. It is vital for India, not to trust what Pakistan says about terrorism on its soil. It has been in the denial mode, so far, about terrorism.

An honest enemy is always better than a friend who lies. Pay less attention to what people say and more attention to what they do. Their actions will show you, how far you can trust them. India should follow the policy of trusting in God and keeping its powder dry. In the end, I am reminded of a Punjabi saying that a dog owner, wanted the tail of his dog straight and kept it in a pipe. When he removed the pipe, after twelve years, the tail was back to its original shape. I have the same apprehensions about Pakistan. 



JOGINDER SINGH IPS (RETD)

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# ARE INDIAN SCHOOLS VULNERABLE TOO?

The Barbaric and inhuman terrorist attack at Peshawar is proof enough that security of schools cannot be neglected and ignored any further. Schools and concerned politicians should not be allowed to shirk away from their responsibilities while hiding behind a hypothetical fear among parents and the school community. Reality is the exact opposite. Fear is created by a lack of information and conflicting messages. Fear is best managed through education, communication and preparation instead of avoiding these issues and creating panic among parents and school officials. Discussions with students must be age-oriented and tactfully approached.

**T**ehrik-e-Taliban Pakistan (TTP) terrorists attacked a military school in Peshawar killing 145 children and members of the staff in mid-December. The first thought that flashed through Indian minds was: "This could happen to us!" While refusing to become petrified by the prospect of a very likely threat the time to ensure that it does not happen to us is NOW. This article is intended to float a debate on security in schools and colleges and the evolution of precautions and standard operating procedures to ensure that if an attack does take place everybody – the principal, the parents, the police, the children

and the staff – are forewarned and prepared to deal with the situation to ensure zero casualties and a consequent frustration of the terrorist's aims and objectives.

This article is intended to prevent any kind of "siege mentality" or fear psychosis among parents and children through a reasoned and systematic analysis of procedures that can mitigate the problem. Most children could not have escaped the incessant barrage of electronic media coverage of the Peshawar attack and they would have questions to ask about the mindless massacre. There is need for a parent-teacher consortium to answer those questions and present an

alternative narrative that will prepare children to learn a particular drill and act within the coordinated parameters of a security gameplan that will, with expert guidance from the police and military personnel, either pre-empt a conspiracy to attack or prevent it at a point where the children are already well secured by dint of the pre-determined drill. Trained security personnel would be alerted at the first sign of impending trouble.

### Preventing Siege Mentality

Many schools and elected politicians are afraid to talk about, and prepare for, terrorist attacks upon schools out of concern that it will create fear among parents and the school community. The exact opposite, however, is true. Fear is created by a lack of information and conflicting messages. Fear is best managed through education, communication and preparation. By not addressing these issues, we are actually creating more fear and panic among parents and school officials. Discussions with students must be age-oriented and tactfully approached.

Communicate openly and honestly with students. Attempt to maintain a sense of normalcy in school operations as best as possible, while providing adequate and appropriate opportunities for students to share their feelings, concerns, thoughts etc. When communicating with students, keep in mind the following points:

- Keep discussions mature and carefully structured.
- Explain to them by supporting facts and be honest.
- Reaffirm adults' / parents' support to their children.

**There were reports that the Taliban which shot Malala, a fervent votary of education for girls, was incensed at the bestowal of the Nobel Prize to her and threatened to kill her if she returned to Pakistan. These straws in the wind were ignored by an over confident military establishment**

support to their children. • Reassure students of measures taken to keep them safe.

### School Crisis Plan

Schools should give serious consideration to additional heightened security procedures during times of terrorist threats. The schools must ensure training the teachers and staff, evaluate security plans and execute school crisis plan in consultation with experts in the police and military

The school should be alert to any suspicious activity like suspicious vehicles and persons on and around premises including those taking photographs or videotaping.

Ensure that routine inspection of the building and grounds by trained security personnel, secure roof and classroom windows at the end of school day. Utilise technology and devices for monitoring and controlling by professional security assessments. It needs to be underscored that by now, omnipresent closed circuit television (CCTV) has, by default, become a post mortem facility instead of being the first information provider through connectivity with police stations, fire stations and disaster relief outposts.

This facility will give the best results in both prevention and rapid response to an emergency situation if it is monitored at times when the locality is most crowded with children. This would be at moments when children arrive and depart. Most often it can be seen that traffic jams occur very regularly. A case in point is the cluster of schools on Pusa Road, New Delhi where children disembark from buses outside the school gate. Arrangements should be made for the buses to enter the school premises by one gate and exit through another. The children would disembark / embark at a pre-sanitised portion of the school premises.

It is important to supervise the building and campus areas before, during and after school hours especially in common areas such as community hall, staircase, restrooms, cafeterias and terrace.

Reduce the number of doors accessible from the outside to the designated entrance. Stress the importance of safety and security of staff as well as students.

### Regular Security Drills

Perform security drill rehearsals on a monthly basis so as to train the students and staff so that at the time of threat the school is



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alert and aware about precautions.

Verify the identity of staff and visitors visiting the schools. Report suspicious behaviour and individuals representing themselves as service or delivery personnel, who cannot be verified. Maintain a log / record of the visitors with their full names, organisation name and photo identification information.

Evaluate food and beverage stock, storage and protection procedures. Determine if schools have adequate water, food and related supplies in the event that students and staff would have to be detained at the school for an extended period of time beyond normal school hours.

Assess school health and medical preparedness. Evaluate school nurse staffing levels. Make sure that schools maintain an adequate number and level of emergency kits and medical supplies. Maintain a stock of at least three days' worth of medications for students. Consider first aid training to staff members and students as this will increase the number of trained individuals available to assist in the event of medical emergencies. It is ironic that the children in the Peshawar school were gathered in the main hall to learn about first aid procedures. In spite of being a military school and being an obvious target for terrorists given that similar attacks had taken place earlier at the Police Academy in Lahore the Army security network was nonexistent. Also, there were reports that the Taliban which shot Malala, a fervent votary for education for girls, was incensed at the bestowal of the Nobel Prize to her and threatened to kill her if she returned to Pakistan. These straws in the wind were ignored by an overconfident military establishment currently engaged in a major military operation against the Taliban in North Waziristan.

In the event of a crisis evaluate / review mental health services for students and staff. Plan ahead how adults will communicate with children in a time of crisis. The approaches should be calm and composed while discussing with students about violence and threatening issues.



**Develop, review, refine and test crisis preparedness guidelines. Be sure to have guidelines for both natural disasters and act of violence. Particular procedures for handling bombs, bomb threats, hostage situations, kidnappings, chemical and biological terrorism and related information should be reviewed**

Identify higher risk facilities, organised and potential terrorist targets in the areas surrounding the school. Schools located near high risk / alert zones should be more alert about the security issues. These might include military base, government offices, nuclear power plant, airports, railway stations, VIP areas etc.

Develop, review, refine and test crisis preparedness guidelines. Be sure to have guidelines for both natural disasters and act of violence. Particular procedures for handling bombs, bomb threats, hostage situations, kidnappings, chemical and biological terrorism and related information should be reviewed. Review with staff their specific roles and responsibilities consistent with your crisis guidelines. Backup crisis team leaders in case normally assigned leaders are not at the building or unable to lead.

School officials should encourage their school staff and communities to remain calm and not panic during these times.

Establish procedures for detecting and reporting unusual absence patterns, in particular sudden mass absences due to reported illnesses. Schools may be in one of the best positions to recognise early signs of such a terrorist via major increases in student illness rates. Schools and community officials should consider having a protocol for school officials to notify public health and / or other appropriate public safety personnel as soon as they detect unusual occurrences.

Review lockdown and evacuation procedures. Note that you may have to have a simultaneous lockdown of one section of the building while evacuating the other parts of the schools so both lockdown and evacuations may need to occur at the same time.

Create "shelter in place" plans to supplement lockdown and evacuation plans. Identify safe areas in building to relocate students, preferably with no windows. The area should be fire and shock proof. **DSA**

# PAK NAPAK



**Tormented am I by the news from Pakistan  
Breached is my patience, how do I hold back?**

**In the name of God, you have slaughtered  
His own children,  
In the temple of learning you have killed  
the angelic scholars,  
O merciless, of their age you had better thought.**

**What made you to allow the mother to live?  
Why O God have you spared my eyes?  
How I wish, I could set them to fire!**

**O barbarians was this place for an act of terror?  
I wish you heeded the call of your mother!  
Nobody heard of such massacre which I had to endure.**

**A father screamed, "Oh! You have shattered my dream!  
And blighted my rose before it could bloom."  
This was not the age to banish him to his grave.**

**Your mother must have fed you blood, not her milk,  
Instead of water, you must have been bathed in blood.  
What dark forces have bred you, now is the time  
to annihilate them!**

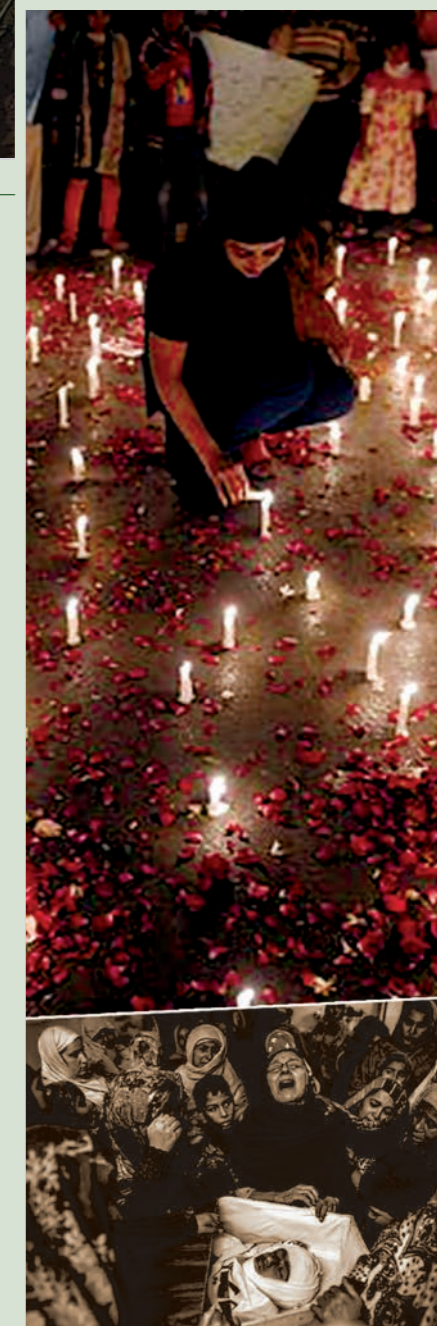
**My anima echoes with nothing but the sound of gunshots,  
And the agony of the fallen and dying youngsters.  
They went with fancy schoolbags, but now lie in  
shrouds and coffins.**

**I wish, O God, to write my heart out.  
In your name were the children butchered.  
"Urvashi" wonders who indoctrinated these Jihadi fanatics!**



**URVASHI J AGRAWAL**

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# INDIAN ARMY

## Moral And Ethical Value Systems

Certain character traits such as loyalty, selflessness and commitment are a second nature to effectively serve the society. Today, when such virtues are sadly lacking in society, it becomes mandatory that defence forces uphold moral and ethical values, regardless of the didactic degradation in the outside world.



**C**aptain Vikram Batra's statement, "Either I will come back after hoisting the Tricolor, or I will come back wrapped in it", beautifully encompasses the true essence of the Indian Army! Only soldiers are real life romantics ... living embodiment of promises that people make to their paramours, living for the love of their country and dying to prove it!

The Indian Armed Forces are synonymous with honour, discipline, integrity, loyalty, courage, duty, respect, sense of sacrifice, patriotism, selfless service, moral values and ethics. It would not be erroneous to say that the expectation level of integrity and moral values of defence personnel is much higher than their civilian counterparts who gladly enjoy the liberty to abdicate under conditions of stress! They have earned India's profound appreciation and reverence for their unwavering commitment to these virtues in war as well as in peace, at home and abroad. Endorsing ethics and morals is an absolute requirement to sustain the solemn trust of the society for men and women in uniform.

In an interview to **DSA** during 2011, former Army Chief General VK Singh had said, "The moral and ethical value system in the Armed Forces is not an abstract concept. In fact, it is the very foundation, upon which, the entire edifice of the Service organisation has been built. By virtue of a strong moral and ethical value system, the Armed Forces are held in high esteem, by the citizens of the country."

From a civilian's perspective, it is not only important

what the armed forces do, but also how they do it, which raises the bar of public expectations for an exemplary behaviour. Indian armed forces, the largest volunteer army in the world follow the tradition of soldiering with deep-rooted sentiments and demand unlimited accountability from its personnel. While it was strengthened during the establishment and evolution of the British Indian Army, its pedigree runs deep into India's civilisational ethos.

A question often asked is, why does a society that tends to ignore unscrupulous and ruthless behaviour and practices among its civilian members demand honesty and commitment from its armed forces!? The professional function of the armed forces is to defend society by being able to fight and win wars. To do so, the armed forces must have members who can distinguish between a potential suicide bomber, dressed in civilian clothes and an innocent bystander. They must be able to kill an enemy and be loyal to their country, their force and their friends without compromising their own integrity.

The answer is simple ... The defence personnel must be willing to risk their own lives and welfare in the interest of their nation. Their leaders must be so trustworthy and inspire such confidence that their subordinates are willing to follow their commands even at the risk of death. Certain character traits such as loyalty, selflessness and commitment are a second nature to effectively serve the society. Today, when such virtues are sadly lacking in society, it becomes mandatory that defence forces uphold moral and

ethical values, regardless of the didactic degradation in the outside world.

Soldering is not only a military profession; it is also considered an extension of religious duty. *Bhagavad Gita* is an important illustration of a warrior's duty and symbolises true Indian culture, particularly the ethics of soldiering. When Arjun refuses to use arms against the Kauravs at the battlefield of Kurukshetra, Lord Krishna reminds him that selfless duty and righteousness is above and beyond all relationships and deviating from this path is sinful. The concern is with action alone and not with the result thereof. When one does his duty as worship, there is no question of seeking appreciation or fearing condemnation. Thus the essence of duty is a desire-less action. What are the moral dilemmas faced by soldiers during conflicts?

Bestowed with overwhelming power by the instruments of violence, soldiers sometimes find themselves in tricky and difficult situations due to their moral values and identity. The implications are gut wrenching emotional extremes that are much more strenuous than any other human profession. With the competing pressures of an evolving society and an increasingly complex operating environment, individualism dominates, making the mental and moral preparation of our soldiers as important as their professional training.

The rapidly changing socio-economic environment has resulted in our society becoming more materialistic. This has led to an erosion or dilution of ethics and moral values and over ambitiousness of the youth to move up the professional and economic ladder at supersonic speed. Until a couple of decades ago, it was assumed that young men and women joining the armed forces would have absorbed an understanding of the core values and standards of behaviour from their family or from within their community. Ironically, such a presumption cannot be made anymore. Experts feel that declining ethical standards may slander the very essence of our great military heritage and our armed forces will cease to command the respect of our countrymen. Can India afford such a catastrophe!?

It is easy to say that soldiers need ethics training! But is it possible to ensure that they learn the right lessons!? It is obvious that much needs to be done in determining the best approach to instilling the desired ethics in men and women in uniform. What exactly do we mean by military "ethics"? Are we referring to the instillation of certain characteristics that would make defence personnel "morally good" in the eyes of a civilian? Or are we referring to the professional standard required for the fulfillment of their role as servicemen and service women? Is it actually necessary for military personnel to be morally good as long as they are proficient at their jobs? Are the two separable, or are they mutually dependent? Are the ethics required of

a soldier in his or her role the same as those required of a civilian with compromisable morality?

Has the lesson of upholding the highest standards of ethics and morals led to the abhorrent fact that some crooked members of our armed forces regard themselves as morally superior to those outside the military!? Perversely, anything they do then becomes morally appropriate in their eyes. Lately, we have been awash in numerous military scandals. While fake encounters, accusations of sexual harassment, espionage and involvement in terrorist activities may seem unrelated on the surface, they also reflect deeper institutional malaise regarding ethical matters and accountability.

Threats to national security may impact on any aspect of a nation's life, ranging from its territorial integrity and internal cohesion to its economy, political structures and institutions, diplomacy, national leadership, national character, morale and so on. The armed forces of a nation have a vital role to play in meeting these threats.

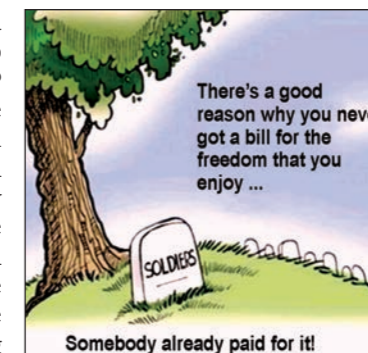
Two factors responsible for the alarmingly vanishing charm of military service are more lucrative job opportunities in civil life and degrading ethical values of the servicemen. The quality of servicemen is deteriorating because of the fact that the best of students opt for civil jobs which readily promise a good and secure life along with very good pay and perks and minimum hardship. Bright young Indians find other career options more attractive.

Analysing both sides of this coin I still feel that the Indian Armed Forces still largely adhere to the ideals of honour, service and patriotism. A revival of the art of mentoring younger generations for the armed forces is imperative instead of middle ranking and senior officers spending valuable time in furthering their own careers. Ethics and moral values are never dispensable. They are an integral part of human survival. I believe that the sheer dynamism of defence institutions, their historical traditions, their atmosphere and exemplary performances of their peers would ameliorate all discrepancies and mould the character of a defence student into the desired configuration. **DSA**



**MAMTA JAIN**

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## UNMANNED AERIAL SYSTEMS SUPPORTING ARMY OPERATIONS

The Indian Army is expected to depend heavily on unmanned aerial systems for surveillance. The requirement has become more pronounced for the years ahead with a growing requirement for rotary and micro-unmanned aerial systems. The infantry has emphasised the need for mini unmanned aerial systems for every infantry battalion.

Modern battlefields require faster identification and more precise effects. This is feasible only with an advanced stage of information flow and availability of intelligence. The complexity and diversity of what Indian Army is going to face in future operations will place it in an unenviable position if commanders and leaders are not able to deliver this capability in far-flung terrains that exist on the borders of India. Sun Tzu had written that “If you are far from the enemy, make him believe you are near” and Chanakya had said that “Battles are won and lost before they are fought.” Both are possible only when we have adequate intelligence. Unmanned systems will allow the Indian Army to be simultaneously near and far and to rollback the fog of war and distance in which our enemies wish to hide.

The Indian Army finds itself in the challenging position of having to win current insurgencies while remaining prepared for future conventional ones. Fortunately, defence forces provide for

a multi-echeloned intelligence and combat capability. However, the lag between the Indian soldier on the ground and supporting artillery fire is required to be shrunk on a daily basis and the quality and quantity of relevant information available to decision-makers must increase.

### Organic Adjuncts To Brigades

It is also essential that we focus on the development, capability, integration and future research of unmanned systems. The current conflicts on the borders with Pakistan and China highlight the complexity, speed and nuance of modern combat overlaid by a constant demand for accurate, timely information. Reflecting the hard-won lessons of combat in Kargil that reinforced both implicit and explicit requirement of intelligence, surveillance and reconnaissance (ISR).

The Indian Army also aims at leading from the front by integrating the unmanned aerial systems capability at the tactical and operational levels, providing unparalleled capability down to

its smallest units. Supporting this is a doctrine that embraces the participation, availability and flexibility of unmanned aerial systems by formalising these unmanned aerial systems as part of the Aviation Corps. The Army has also integrated them into the planning, execution and after-action processes of all echelons. As a linchpin to this integration the unmanned aerial systems are viewed to be organic to brigades, rather than attachments and detachments (add-on forces). There is a growing requirement of pilots to support this vital vertical integration that grants coherent and synchronised control that can respond to dynamic re-taskings and battlefield mission changes.

### Growing Requirement

The Army unmanned aerial fleet has been expanding but still remains a handful when compared to the need assessment. It initially operationalised four UAVs followed by the operationalisation of about a dozen *Nishants* with three sets of ground support systems. The Indian Army is preparing itself to induct a fleet of about 20 *Nishants*. The system will also be made capable of deployment off a mobile hydro-pneumatic launcher and parachute recovery, will be first for effective deployment in the desert sector. A follow-on order for 40 more *Nishant* drones can be expected once the first batch is made operational. Low repair cost, faster software maintenance and 24X7 availability of technical support are some of the unique selling points (USPs) that have been projected aggressively about their operational utility and efficiency.

Defence scientists are also unveiling the wheeled-version of *Nishant*. The UAV named *Panchi*, is capable of taking off and landing from semi-prepared runways, thereby reducing the turnaround time between missions. *Panchi* is currently undergoing refinement for mission readiness. It is expected to be used for reconnaissance, intelligence gathering missions over hostile territory, target designation, surveillance and also to assess damages during natural calamities. When fully operational, it is expected to join the ranks of other proven wheeled unmanned aerial systems like *Heron*, *Global Hawk* and *Predator*, that are capable of the conventional take-off and landing.

It will be important to note that the first test flight of the *Nishant* RPV (remotely piloted vehicle) was made in the year 1995. The journey so far is going to be two decades since then.

The Indian Army is mainly equipped with a 100 plus *Searcher Mk I* and *II*. The Army’s artillery arm mainly governs unmanned aerial systems operations for the ground forces till the formation and establishment of a separate service group. However, it is expected that the ground forces of the Army will still be having operational control over hand-launched tactical unmanned serial systems for infantry, vertical-take-off-and-landing (VTOL) unmanned aerial systems for counter-insurgency operations with

stand-off loitering weapon on board, if approved. Sources also confirm that there is a lookout for conventional take-off and landing platform similar to the *Searcher Mk II*, with endurance of up to four hours and beyond. The Army has a stated preference for a platform capable of carrying communications, intelligence and synthetic aperture radar payloads.

The Indian Army happens to be the largest of the three Services in the country but has limited capability in terms of its unmanned aerial system strength. Given the extent of deployment and the number of tasks that the Army is expected to perform both during conventional conflict and present counter-insurgency operations, it is evident that the larger plan should emphasise the induction of unmanned aerial systems of different capabilities across the range of operations over different terrains. The Army’s responsibilities have increased significantly and there is a growing need to have assets available to deploy at short notice. Importantly, it must be noted that the requirement should focus beyond the tactical level and cater to the strategic needs of the Indian Army. The present numbers and their capability are intended to meet the tactical needs of the ground forces. Given the expected synergy constraints in the midst of battlefield operations it is an absolute essential that it must have its own capabilities in terms of strategic capabilities in terms of ISR. This does not mean that the other two Services should not have similar capabilities. The argument of duplication of resources and effort does win in logic but loses the battle when faced by synergy challenges in the fog of war.

### Improving Capabilities

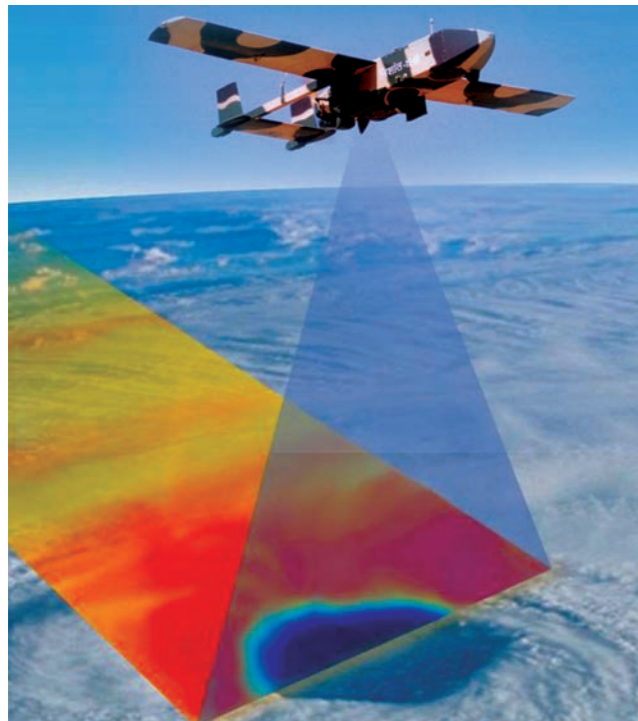
Research and technical advancements in future UAV platforms are expected in the following areas:

- Signature reduction
- Supervisory control of multiple systems
- Vertical take-off and landing capabilities
- Collision avoidance
- Weaponisation
- Manned / unmanned teaming
- Flight durability in terms of extended operational flying time with renewable energy capabilities
- Advanced communications relay and extension



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The Indian Army has integrated unmanned aerial systems into many operational functions and all echelons of command. The capabilities of unmanned aerial systems have also been increased with the expectation that the refinements will enhance situational awareness and battlefield effectiveness through real time information flow with controlled data overload. Now this is a huge expectation when translated into real requirements for those with boots on the ground because what they require is almost immediate information to act.

Although relatively low in cost compared to manned aviation systems, unmanned aerial systems require almost constant flow of research, development, test and evaluation funding to continue developing relevant capabilities. The critical and essential balance of legacy systems, upgradation and newer inductions dictate the careful assessment so that operational preparedness is not hedged at a compromising level.

**Roadmap And Constraints**

The Army is expected to depend heavily on unmanned aerial systems for surveillance. The requirement has become more pronounced for the years ahead with a growing requirement for rotary and micro-unmanned aerial systems. The infantry has emphasised the need for mini unmanned aerial systems for every infantry battalion. It is expected that within the next three years we may see a rapid induction of mini unmanned aerial systems.

Successful utilisation of unmanned aerial systems in internal security operations and regular use in no-war, no-peace scenario on the India-Pakistan and India-China borders on a routine basis, coupled with India's aviation technology advancement is expected to provide unmanned aerial systems

development programmes the necessary foundation to succeed in the immediate context. In the future, the utilisation of unmanned aerial systems in India's military is expected to eventually spillover to commercial usage as well which should make capital investment in technological advancement more attractive in terms of commercial viability and sustainability. It is only this investment into current and future unmanned aerial systems capability that will ensure that the Army remains in reckoning with cutting edge in the modern information-centric battlefield.

The armed forces are convinced that unmanned aerial system technology is very useful and successful in different types of operations. In addition, it brings about the requirement of confirmatory requirements of all information and validity so that they can be used for informed decision-making process so crucial at all stages of any operation. This has re-emphasised the demand boost for medium altitude long endurance unmanned aerial systems.

However, history is witness to our country's lack of focus and technological capabilities drives the need for a concrete framework for current and future unmanned aerial system development programmes. To overcome this and become a major participant in the Asia Pacific unmanned aerial system industry, several institutions, including the Defence Research Development Organisation, have been tasked up by the government to focus intensely on unmanned aerial system developments. The Indian Army has ambitious plans of equipping batteries of unmanned aerial systems, comprising of eight aerial systems, with each artillery brigade with Corps holding the loitering missile battery systems comprising of no less than eight missiles with associated ground systems. Only technological advancement can make such capabilities see the light of the day.

**Closing Thoughts**

To continue the deployment and development of such potent tools the future requires robust and broad funding package that engages all aspects of the unmanned aerial systems growth and induction plan. It will not only be about sustaining the current arsenal with adequate funding for ground control suites but also invest in the future of the soldiers on ground.

In about two decades, from the time *Nishant* went in for its maiden flight the Army's 'eyes in the sky' have provided vital wherewithal for battlefield assets that have unparalleled potential for force multiplication in extreme combat survivability conditions. The investments made in unmanned systems will be paid back many times over. That these flying machines will save soldiers' lives is an investment the nation owes to men who protect the nation 24x7. **DSA**



**COL HV SHARMA**  
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**CAREER MANAGEMENT OF EX-SERVICEMEN**

Army needs to sensitise and prepare the soldiers about 'Second-career' once they complete mandatory 15 years colour service. This could be in the form of an 'aptitude test' to identify the interest of a future veteran and suitability for a job / self-employment. This should be followed by adequate training in English which as per a survey by Security Sector and Skill Development Council increases the chances of placement by 15 per cent.

**E**x-Servicemen (ESM), also called veterans is a two million strong community of personnel who have retired from Indian Defence Forces ie Army, Air Force, Navy and Coast Guards. Veterans from Air Force, Navy and Coast Guards are better qualified and generally capable of finding suitable vocation. In Army also, career management of officer veterans is a subject in itself. Hence, this article is oriented towards analysing the issue of resettlement of Army veterans other than officers. The country needs a young and physically fit Army, thus the retirement age is way below what is in civil or other government jobs. More than 50,000 Army personnel retire every year and join the community of veterans. The majority of them are in their thirties and forties. They suddenly find themselves ill equipped, poorly qualified and unskilled for a job in civil sector. The career management of these veterans and assisting them in finding a suitable 'second-career' is a national social responsibility.

**Present Scenario**

At present Directorate General of Resettlement (DGR), under Department of Ex-servicemen Welfare, Ministry of Defence is the nodal agency, to look after resettlement of veterans. They offer large number of resettlement courses, which veterans can attend prior to / after they retire. DGR also offers certain schemes for self-employment and disseminates information about government / civil jobs. Unfortunately, the 'resettlement' courses are generalistic in nature and do not fetch jobs as desired, Though, lately, DGR has made unprecedented efforts to streamline the courses to make them job oriented, however, much more is required to be done. Secondly, large number of veterans are unable to attend any of these courses due to operational commitments of Army.

There is no civil / industrial agency involved in resettlement of veterans. In USA, there is a large, thriving human resources industry which is intimately



involved in placement / resettlement of veterans. Probably, due to conscription, the ESM population is huge in USA. In India, in addition to DGR, Army, Navy and Air Force have set up their own placement organisations to bridge the gap and enhance satisfaction level of ESM. Army Welfare Placement Organisation (AWPO), a registered society is one such organisation with its head office at Delhi and 15 placement nodes spread all across the country. AWPO operates a job portal namely, [www.exarmynaukri.com](http://www.exarmynaukri.com) where veterans register at the time of retirement. Prospective employers can access the portal and seek suitable candidates from any of the placement nodes. Although AWPO has been able to place approx 10,000 veterans annually, it remains woefully short to serve the large veteran community. This is due to prevalent policies and ignorance of industry as to what all resources are available amongst veterans.

**Available Human Resources**

Veterans from 159 trades are available. AWPO has a databank of two lakh personnel with more than 15 years experience. They offer candidates for the following categories:

- Senior executives (Officers) with qualification being Graduates / Postgraduates, BTech / MTech, MPhil, PhD and MBAs to name a few.
- Junior executives (JCOs / NCOs) with minimum qualification being 10+2 and diploma in the age group of 32 years onwards.
- Young fresh graduates (boys / girls) well nurtured with values.
- Senior officers (Generals/ Brigadiers) for strategic / higher managerial jobs.
- Veteran Colonels / Lt Colonels who can work in HR / Personnel, Admin, Security and

many other profiles.  
 ● Young officers (Captains / Majors) within 40 years of age who are highly qualified and generally Exec MBAs from reputed institutions including IIMs.

**Career Options**

The wide options available to a veteran are a government / civil job and self-employment. However, due to existing policies / skill requirements a veteran finds himself at a loss and generally ends up fetching a lowly paid job in civil street.

Although sufficient age relaxation is provided to a veteran in government jobs and there is reservation also but they are unable to crack a written text, comprising of Reasoning, English, Maths and General Knowledge. Moreover, the veteran is equated with a general category candidate in minimum cut off, where he loses out badly. Therefore the 'so called' reserved vacancies are conveniently merged with 'general category'. In all fairness, having served for minimum 15 years in difficult operational environment, a veteran needs to be equated with other categories being given reservation in government jobs. Similarly many PSUs / Banks have arbitrarily laid down an upper age limit for ESM which is much below the age upto which a veteran is eligible as per age relaxation provided by government. This denies a large number of vacancies to the veterans.

Another important issue which needs to be thrashed threadbare is issue of 'lateral placement', which unfortunately found no takers in Central Police Organisations / Paramilitary Forces. This is a proposal where a soldier is provided a lateral placement in CPOs / Paramilitary Forces after certain service in Army. An ideal solution gone sour due to imaginary competitiveness and a desire for exclusivity at

the cost of national interest. A graded lateral placement which allows a soldier to get absorbed in a CPO / Paramilitary Forces after 15, 20, 25 years of military service at corresponding ranks would have resolved the issue of placement of Army veterans and reduced the need of Training infrastructure for CPOs / Paramilitary Forces. It will be a win-win situation whenever this is understood and willingly accepted by the CPOs / PMFs.

Similarly, the lack of adequate knowledge of English, both written and spoken lowers the chances of veterans getting a job in civil. The problem is further accentuated by lack of sufficient IT knowledge. So, the majority of veterans remain disqualified to even join 'Security Industry', even after having served in Army for 15 or more years!

**Relevant Issues**

Army needs to sensitise and prepare the soldiers about 'Second-career' once they complete mandatory 15 years colour service. This could be in the form of an 'aptitude test' to identify the interest of a future veteran and suitability for a job / self-employment. This should be followed by adequate training in English which as per a survey by Security Sector and Skill Development Council increases the chances of placement by 15 per cent. This should be complemented by IT awareness where a veteran is competent enough to work on Internet, Excel etc. This too increases the placement chances substantially.

While in service, soldiers need to be educated about usefulness of driving license of all types of vehicles, weapon license, commandos / security courses, service in National Security Guards, instructional tenures in Army Institution

/ Regimental Centres. They must be assisted to achieve this in order to have better chances of resettlement on becoming a veteran.

In Companies Act 2013, Schedule VII, welfare and providing skill to a veteran / war widows / dependents has been included as part of Corporate Social Responsibility. There is a large scope for various industries to use this provision to upskill veterans and make use of this disciplined and dedicated human resource. One such programme has been initiated by Genpact and NIIT to train some veterans in 'Finance and Banking' and absorb them after four weeks of training or afford them minimum two placement interviews with other companies. There are few other MNCs mulling over utilising this large pan-India workforce in running their business across the country.

**The Road Ahead**

To improve the present scenario there is a need for multi-pronged coordinated approach by all the stakeholders viz government, Army, industry and veterans themselves. There is an urgent requirement to identify and address the issue of upskilling a veteran before retirement by Army / Industry. Creation of Skill Development Ministry is a welcome step in this direction. As mentioned by Mr Rajiv Pratap Rudy, Minister of State for Skill Development, in a seminar recently, veterans may be made available for skill development upto one year prior to their retirement. Undoubtedly, such a move with a well-structured programme including English and IT will increase the chances of resettlement of veterans subsequently, both in government / civil jobs.

Likewise various industries directly or through various Industrial Chambers can seek availability of veterans before retirement for few months to impart them "Industry Specific Training" and absorb them once they are available post-retirement. Recently, an MoU has been signed between AWPO and PHDCCI on similar lines to increase the awareness of industries about veterans and create job opportunities for them.

**Footnote**

It is necessary that resettlement / career management of veterans is undertaken as a "National Social Responsibility". On part of the veterans they must acquire necessary skills / qualifications while in service and prepare for a 'Second-career' in right earnest at least one to two years prior to retirement. Simultaneously, Army needs to introspect and prepare veterans for a 'Second-career' diligently to create a scenario where veterans become a sought after prospective employees. The government needs to safeguard the interest of veterans and ensure equal opportunity to them, along with necessary 'skill development'. The industry needs to come forward and use CSR to upskill veterans and absorb them to create diversity in their organisation. An optimum utilisation of veterans over a period of time will contribute to nation building in substantial manner.



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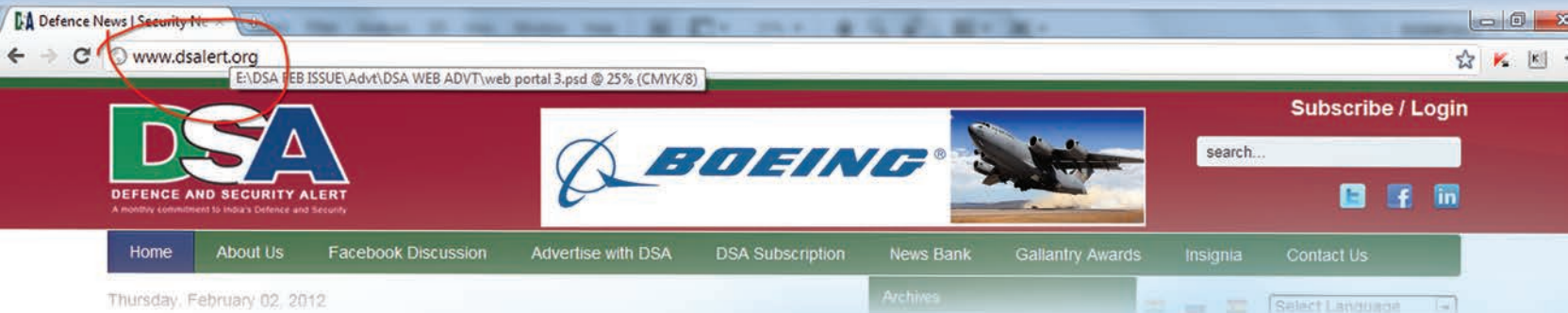
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