Seminar Report

MANOEUVRE WARFARE AND FIREPOWER—APPLICATION IN THE FUTURE

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DETAILED REPORT

General: The history of warfare is replete with numerous examples of the employment of manoeuvre and firepower elements not only to win battles but also to favourably and decisively influence the overall outcome of wars. The manoeuvre theory is a way of thinking about warfare rather than a particular set of tactics or techniques and its essence is defeating the enemy's will to fight rather than his ability to fight. Firepower, on the other hand, is the destructive capacity of a military force, that is, it's capability to deliver effective fire, normally through the use of missiles, gunfire, bombs or other projectiles. While Manoeuvre warfare accepts (and even encourages) risk-taking, with Firepower, risk elimination is a higher virtue. Thus, both complement each other and need to be synergised optimally to defeat the enemy. All future wars, if any, will be fought in a nuclear threat environment, hence, the tenets of nuclear warfare will form an integral part of planning. Hybrid war is also focused on 'War on the Nation', similarly in the future conventional operations, wars too must address the nation. The future and current capabilities of our armed forces are suitable to conduct a war as visualised above. All this seeks a fresh and holistic application of military thoughts to recalibrate manoeuvre and firepower strategies.

Welcome Remarks

First World War (WWI) had the concepts of fixed defences and mass attacks, wherein today, the revolution in military affairs (RMA) has completely changed the way future wars will be fought. In today's scenario, the future wars will be less predictable and it is the mental mobility of the military leadership which will be the decisive factor. The world armies have moved on from the attrition warfare and it is time that Indian Army (IA) also holistically integrate manoeuvre and firepower in its strategic thought process, especially when remarkable advancements in technology and armament have become an intrinsic part of our army. At presnt, the biggest challenge is how to apply

manoeuvre and firepower and also exploit the third dimension. Non-linearity and indirect attack are two essentials which along with fluidity and simultaneity are interlinked to manoeuvre warfare. With adversaries like China and Pakistan, the nuclear threat looms large and, thus, forms the background of any future war. Though cyber- and space warfares are a reality now and need to be configured in the overall strategy, it needs to be clearly understood that wars are finally won by either capturing ground or the destruction of enemy forces or both. Hence, we must look at both manoeuvre and firepower as war-winning strategies and brainstorm the employment of both in our paradigm of future things.

Opening Address—Chairperson

Manoeuvre and firepower are two essential ingredients of war that play an important role in determining the outcome of wars. Good strategy and bad practice fail to win wars, bad strategy and good tactics can still win wars but it is the good strategy and good tactics which makes the ideal combination. Today, the spectrum of war encapsulates all possible domains of warfare that is, conventional, sub-conventional, hybrid, asymmetric, cyber, space and nuclear, so the future remains uncertain. However, the aim of war remains the same and conventional warfare remains a critical component under any scenario. Most of the changes in the past have not ended wars; they have been evolutionary, but not revolutionary.

With respect to Pakistan, we have developed a strategic surprise and brainstormed the strategic space which the forces will exploit in the wake of tactical nuclear weapon to which Pakistan can retort on any given opportunity.

India and China have multiple disputes across the mountains. China is vulnerable in the mountains, such as Chumbi Valley, Doklam and this is where manoeuvre warfare can give India an edge. The 1971 Bangladesh Liberation War was a classic case where not only ground manoeuvres but air manoeuvres were also successfully conducted. However, the question which needs to be deliberated is whether Indian Armed Forces, today, have organisational structures to practice

manoeuvre warfare? If future wars are to be won then the operations of IA, Indian Navy (IN) and Indian Air Force (IAF) need to be integrated. Coordination is largely based on cooperation between individual personalities instead of an institutional mechanism. Manoeuvre warfare can be a game changer, if practiced correctly. India must move towards it with a more organised approach.

Manoeuvre—A Detailed Analysis

Contextual construct of manoeuvre: The contextual construct of manoeuvre can be understood under five basic postulates, which are as follows:

- **Postulate 1: Concept of victory:** Victory has variations with respect to who the opponent is. However, the mantra lies in achieving victory at the least cost and in minimal time. This very factor forms the foundation of manoeuvre and manoeuvre warfare.
- **Postulate 2: Defeat mechanism:** In manoeuvre, it is important to understand the dynamics of the defeat mechanism, wherein, it operates as an interplay and reciprocal relationship between two key factors: will and capability of the adversary and the means to them are: pre-emption, dislocation and disruption. Most importantly, dislocation needs to be understood in a broader domain. That is to say, in military parlance, dislocation can be of four types: physical, psychological, temporal and functional dislocation. Therefore, dislocation continues to be at the heart of the manoeuvre theory and it is executed in manoeuvre warfare. In view of this, the critical aspect lies in the execution of dislocation and to target the will and capability of the adversary, for which, the ability to manoeuvre and fire need to have a dynamic which is direct, timely and precision-guided.
- **Postulate 3: Operational dimension of time, space, force and information**: A successful execution of manoeuvre stems from the desire to take ownership of these four key critical operational factors of time, space, force and information. With regard to space, it is also the physical and psychological space that is deemed important. All these are interrelated and need the right balance and harmony in the execution of fire and manoeuvre and vice versa.

- **Postulate 4: Jointness in manoeuvre:** Manoeuvre is an all-arms joint operational concept. It is not just limited to any one arm or any one service. It is equally applicable to the plains, mountains, higher altitude, sea and all mediums. Manoeuvre today, is multidimensional, complementary and interdependent which combines arms, environment and applications. A single execution will not even qualify to be a tactical manoeuvre and will not achieve the objectives as mentioned above.
- **Postulate 5: Manoeuvre and directive style of command:** Manoeuvre has attendant risks, uncertainty and chance. Thereby, a leader who executes manoeuvre is one who has the ability to take risks which open opportunities and these opportunities will further provide the initiative to target the enemy lines and capabilities. It is the risk-taking ability, boldness and battlefield visualisation which a leader must possess to execute manoeuvre. This very factor demands a decentralised manoeuvre and directive style of command.

Challenges of Manoeuvre: The key question is: Can we execute a blitzkrieg in today's information age? The assumption lies in the fact that technology-driven information age has altered the length and character of modern warfare in the 21st century, just as much as it changed in the 20th with the mechanisation of forces. However, the foundational philosophy of manoeuvre warfare remains to be the challenge and the methodologies to adapt to the changing environment need to be addressed. This very factor makes it essential to rethink and reassess our execution capabilities that is, strategic, operational or tactical capabilities.

The advent of long-range, precision capable and operational fires has resulted into a three-dimensional expansion of the battle space as well as the attendant, dispersal of targets and forces. However, the challenge that remains is of distance engagement versus physical domination. Given that firepower and manoeuvre are complementary and reciprocal, thereby, if firepower has enhanced in-depth capabilities with precision, this requires to be matched by manoeuvre capabilities that are executed in the same tempo and momentum. The other significant aspect is that of battlefield awareness. This requires the

competing need of 'quality of first'. Wherein, it is essential to see first, decide first, engage first and finish first, yet, it will first be the manoeuvre which will be essential to wrest the initiative. This requires the intelligence, surveillance, and reconnaissance (ISR) capabilities—intrinsic to any initiation of manoeuvre warfare and the capabilities that need to be generated to fight smart and have victory with the least cost and in minimum time.

Information technology also has critical vulnerabilities that targets can create in terms of confusion and chaos. This aspect prompts certain pertinent queries, such as—do we need to reboot the Clausewitz's theory of centre of gravity or have periodic look at the adversary's multiple critical capabilities, requirements and vulnerabilities which emerge in time and henceforth, target them. Space-related constraints in terms of urbanisation can impact the 4th generation warfare. One size solution does not suit all. There is a need to look at lighter platforms, such as light tanks, wheeled armoured personnel carriers (APCs), wheeled iterative closest points (ICPs) and so on. Furthermore, a nuclear battle space too has its own constraints. These contingencies call for the need to change the art of manoeuvre as the challenges emerge.

The primary challenge is time-critical precision manoeuvre matching precision fires followed by rapid dominance. Here, rapidity in terms of time and dominance as well as in terms of space—physical and psychological—helps to dominate the capabilities of the adversary.

Implications: The key query: How to operate in the future for a decisive victory in the information age? Proactive operational strategy and the war-fighting strategy of manoeuvre warfare are well placed. However, the need lies in the analysis of whether we maintain our status quo or are we changing our operational and tactical methods of execution in keeping with the revolution in military affairs. In this regard, certain key aspects need significant deliberation, such as:

- Has the induction of the artillery division in the strike corps

impacted the manner in which we execute the operations?

- Are we looking at an important asset of operational and theatre-level manoeuvre?
- Has the transformation from T-55 to T-90 and now future-ready combat vehicle (FRCV) going to change the manner of tactical and operation level employment of forces?
- Is an understanding of the western front philosophy and the interplay of forces well ingrained?

The essence lies in the understanding of a theatre-integrated battle and the interplay of pivot and strike cores in terms of zones of penetration and zones of vulnerabilities to be able to execute and optimise a manoeuvre in place. These are issues that need to be deliberated regarding the employment of forces and to execute manoeuvre in the present constraints. Keeping these concerns intact, the force structure, thereby, calls for a highly lean, agile and versatile force operating at land, sea and air mediums.

It remains indisputable that aerial combat manoeuvre is becoming an integral element of success. In the future war scenario, airdrop forces and air-transported light forces are critical for the future force structure and application. There is a need to consider the surface-to-space continuum as one and the shift from two-dimensional to multidimensional orientation for precision targeting, intelligence, communication and manoeuvre. What is essential to note is that manoeuvre is a tri-service domain with vertical capabilities that is, heliborne, airborne, air-transported operations and so on. Furthermore, the other aspect that needs due focus is the human dimension of leadership in future manoeuvre. This makes it an essential need to train the operational level leadership in an era of counterterrorist tactical scenarios.

Manoeuvre continues to be a critical war-fighting philosophy and a foundational element; however, its implementation and optimisation even with the existing force structure needs to be addressed. The review of structure and capabilities, such as ISR and the operational concept at

the tri-service level needs significant attention. That is to say, we need to outfit a big war machine with smart, lean and agile capabilities.

Manoeuvre—A Force Multiplier

The three undermentioned questions have always been a matter of debate in military parlance and assume great importance:

- Are manoeuvre and manoeuvre warfare synonymous in nature?
- In manoeuvre warfare, does attrition have a role or are they on the opposite sides of the spectrum?
- Is manoeuvre warfare relevant in the information age?
- Is manoeuvre a force multiplier for the IA?

Are manoeuvre and manoeuvre warfare synonymous in nature? It is an accident of language that manoeuvre and manoeuvre warfare are taken to be synonymous. Manoeuvre is an organised movement of forces for combat purposes to place themselves in positions of precision to have an advantage in the battle. It can be understood in the use of the terms 'fire and move'. This has led to a general understanding being developed that manoeuvre warfare is warfare employing manoeuvre, and consequently, it is the thought that has been wrongly interpreted since ancient times. However, the intent of manoeuvre warfare is to bring about defeat of the enemy by repeatedly attacking their weaknesses and not attacking their strengths, to break the enemy's moral cohesion. The difference is between destruction and defeat. Manoeuvre warfare attempts to defeat wherein manoeuvre attempts to destroy. The goal in manoeuvre warfare is systemic disruption and dislocation. The task is to attack the coherence of the enemy's combat methods and plans. Manoeuvre warfare talks about a way of thinking and application of the thinking—a mental game. Manoeuvre is a small subset in the larger context of manoeuvre warfare.

In manoeuvre warfare, does attrition have a role or are they on the opposite sides of the spectrum? IA practices attrition as a primary strategy and manoeuvre warfare is still to be institutionalised. As the Chairperson has rightly remarked that the IA has been talking about

it since 40 years, but concrete changes are yet to be made. Attrition is pitting force against force and this is what was practiced in the previous wars. In attrition warfare, victory is measured only in terms of numbers of the enemy killed, prisoners of war (PoWs) or the territory gained. Therefore, it is rigid, fixated and requires little battlefield creativity at the lower-level leadership.

Is manoeuvre warfare relevant in the information age? If the aim of the manoeuvre is to attack the mental cohesion of the forces of the enemy, then information is certainly required and manoeuvre is indeed a part of the information age. China has remarkably mastered and integrated it in their war-fighting philosophy. Information warfare and propaganda is only re-enforced by military actions and is not some distant future warfare. Cyberspace must also be given adequate attention.

Is manoeuvre a force multiplier for the IA? The IA is destined to continue with disputed borders as status quo. Transition to manoeuvre warfare is singularly overdue. Zero-mistake syndrome and manoeuvre warfare are contradictory terms. A centralised command is not the right recipe for manoeuvre; a decentralised command is what needs to be exercised. There is also a primary need for the change of mind set to adapt to this concept which involves moving forward from the age-old tactics of linear defence. Nowadays, unconventionalism is the norm to win a battle. Hence, there is a need for IA to remodel the training. Warfare has to be planned outside of the enemy experience. Routine warfare has to be discarded. Applicability of force has to be made unconventional, especially in high altitude areas. Numerical superiority cannot be relied upon. Innovation and disruption have to be focused on.

Role of Aerial Manoeuvre—New Dimensions of Warfare

Operation Desert Strom is a compelling case study that one needs to understand and improvise with the current realities or else one will meet the same fate. Iraqis were preparing themselves for a physical battle with a thought that they will contest in the battlefield. They had nationalism on their hand but the nature of confrontation which they

had anticipated never took place. The entire Iraqi Army was irrelevant to the changed context of modern warfare. The manoeuvre aspect which the United States exhibited on the battlefield by surprising the enemy is the same manoeuvre aspect which we are deliberating about today. The way unmanned aerial vehicles (UAVs), air arm and long-range missiles operated, was a lesson for the entire world.

Secondly, Chinese military modernisation started in the 1990s in a big way. Chinese have been flexible to the changing nature of warfare. The way China has shaped the concept of UAV employment, artificial intelligence and missiles, the whole perspective of air arm and manoeuvre warfare is undergoing a paradigm shift. They have improvised and adapted to the changing scenario and therefore, we need to look at ourselves and the pace at which we are progressing. Are we changing our thoughts and perceptions in a comprehensive manner? This is something which we need to look at.

We have already walked into the sixth dimension of warfare after land, sea, air, cyber, space, information and now into the realm of ideas which are governed by mind. So, have we adapted to these changing ideas? Are we trying to make our ideas innovative with respect to the changing needs and aspirations of present times? One needs to introspect and examine these because manoeuvre warfare is all about thinking, it is a state of mind which is dealing and innovating in the realm of path-breaking ideas. Primarily, it is about targeting the enemies' will and plans, not its forces. We have understood the six elements of manoeuvre warfare and these are: tempo, observe, orient, decide, and act (OODA) loop, focal point, surprise, combined arm and flexibility.

Manoeuvre warfare, in the words of the US Marine Corps doctrinal manual, is "War fighting is a state of mind bent on shattering the enemy morally and physically by paralysing and confounding him, by avoiding his strength, by quickly and aggressively exploiting his vulnerabilities and by striking him in a way that will hurt him most". Its ultimate aim is not to destroy the adversary's forces but to render them unable to fight as an effective, coordinated whole.

Important issues for addressal are enumerated as under:

- IA needs to revisit the idea and concept of terrain. If we go on accommodating the concept of terrain, more than what is required, we will never be able to focus on the air-arm perspective in manoeuvre warfare.
- IA needs to think and work on jointness, integration and interoperability, which are the utmost requirements for the manoeuvre aspect in warfare. We need to revolutionise this aspect.
- IA also needs to revolutionise the area of force application.
- Airborne forces, UAVs should be integrated in battle operations in a comprehensive manner to achieve the designs of maneuver warfare.

"Wars are no longer decided on the ground or in air or at sea, alone; they are decided in the mind and the manoeuvrability of the mind. Our neighbourhood in the northern area that is, China, is fast changing. Their enhancement in the area of artificial intelligence, UAVs, missiles as well as their deployment of air arm as a tool of warfare is comprehensive. And therefore, we need to change and adapt to these fast-changing scenarios in our immediate neighbourhood.

Synthesis of Firepower—Enhance Manoeuvre Speed/Tempo/Non-Linearity/Deep Battle

Firepower has operational contours, but the envisaged outcome is strategic in nature. Envisaged outcome of the synthesis of firepower provides exponential force multiplication. One of the most important facets of firepower is the concentration of firepower in terms of time. The whole logic of firepower synthesis for mobile operations (which are manoeuvrable in nature) lies in ensuring concentration in terms of time. It has been said repeatedly that the IA has not been a practitioner of manoeuvre warfare but it is not correct in true sense. It will be more prudent to say that at the macro level, the application of opportunities of manoeuvrability have not taken place as of yet.

Manoeuver is an art and this art must be converted into a science of execution. Science of execution is precise and holistic in nature. Firepower is fairly scientific and precise in its application. However, the manipulation of trajectories is an art, which brings the aspect of concentration in terms of time as a factor. As rightly said by Brig. Gen. Huba Wass de Czege (post Vietnam War) that our relentless endeavour is to look for ways to 'break his will' and 'capacity to resist'.

War of tomorrow—much of the role of the three services is contingent on the use of firepower. Aerial and naval platforms are those whose use of firepower will result in greater destruction and collapse of the enemy. Manoeuvrability must be achieved to ensure this destruction. This is true for any type of operation, whether large-scale or small-scale or high-altitude operations in any theatre of operation (plains/line of control (LoC)/north-eastern theatre, etc). Though artillery possesses the capabilities such as variety, greater range and lethality, we must also accept that artillery has not transformed the way it was envisaged despite being modernised and expanded. Therefore, the bottom line is that firepower by the army alone cannot guarantee success; it requires a cojoined effort of the three services in a much larger way than previously discussed.

Manoeuvre operations are always an integration of the supporting, fighting and the shaping of the forces. Attrition deceleration and manoeuvre acceleration ensures that all strike elements of the enemy are neutralised. Breaking the cohesion of the enemy entails striking not only the headquarters of the enemy or the mind of the enemy but also all the physical spaces, making sure that the forces cannot join. The data on the enemy movements and deployments must be updated regularly to ensure maximum effectiveness of firepower. Manoeuvre application requires a constant stream of material to the elements undertaking the operation.

Firepower can make a difference in making the enemy collapse. However, if the capability of autonomy of movement, along with adequate ammunition handling capacity is not present, firepower alone cannot guide the tempo of manoeuvre operations. The effectiveness of firepower in the future wars hinges on the undermentioned issues:

- **International Peace Bureau (IPB) vs. targeting:** Decision support matrix of the International Peace Bureau (IPB) generally lacks in complete details. This requires synergy between commands of the three services which will further help in conserving resources.
- **Inter- and intra-services issues:** Battlefield transparency (BFT) is not integrated to the required level. Cross-training within the services is almost non-existent. IA–IAF integration needs to be further built-up during the IA training exercise and also joint exercises.
- **Location of targets:** Images used for targeting data are nonuniform and inconsistent. Synchronicity is the call of the day to improve targeting and data collection.
- **Networking:** Real-time streaming of information has not been adequately developed. Networking between the three services is a very slow work in progress and must be accelerated.
- **Satellite surveillance:** Real-time transmission of data from satellites to fighting echelons is currently non-existent. Facilities must be created to enhance real-time data sharing (mobile data receivers of the army are not equipped to pull data directly from satellites). More needs to be done on the sharing of data among the Strike Corps.
- **Training of special forces:** More needs to be done on enhancing the capability of the special forces to neutralise any enemy action.
- **Psychological aspects:** It is the idea that force can be applied both for offensive measures and to deny the enemy the chance to use their weapons against us in an effective manner.
- **Autonomy of movement:** The earlier it is overcome, the more effective the thought process regarding effective usage of firepower will be. Ammunition handling must also be considered very seriously and no compromise on such autonomy should be given.
- Employment of UAVs is more important for conventional operations. Procurement and upgradation of infrastructure needs to be expedited and the requirements of the IA must be given priority.

- **Precision artillery:** Enhancement of precision artillery must be given priority.
- **Survival of firepower machinery:** Self-defence capability of the machinery is a necessity in today's world of hybrid warfare. Usage of manpower for defence must be taken as an option.
- **Survival of gunners in combat situations:** Currently not given attention, adequate supplies (medical, ammunition, etc.) must be provided to the gunners to increase their chances for survival.

BFT and strike are the two important elements with the tactical interface being the game changer. Synergy between the three services along with a thorough understanding of their capabilities and limitations are also very important factors in improving our strike capabilities.

Firepower Orchestration at Strategic Level—Address the Will of the Enemy Nation

It is important to deliberate how firepower can, as a domain of emerging capabilities, be used as a tool in the overall strategic arsenal of the nation? If we are talking of the efficacy of firepower in an operational context, firepower must fulfil the undermentioned three conditions:

- be of use to the political class,
- be of relevance to India's strategic outlook, and
- provide traction to the utilitarian deployment of force.

Totality of firepower can only be nursed in a strategic conflict. Modern conflict is more likely to manifest in prolonged diplomatic engagements, mixed with the occasional use of force. Force is likely to facilitate political settlements rather than fashion an outright victory for any nation. The military must not think of itself as the last resort when diplomacy fails. Principal purpose of military establishments is to win wars. The military must now also look to averting war with deft manoeuvres in the realm of responses short of an all out war. The 'response short of war' (RSOW) domain can alter and impact the geostrategic spaces by creating military pressure points to fulfil strategic

and foreign policy objectives. Doklam stand-off is an example of how the military, with assistance from other branches, brought closure to a tense situation with China. Force as a tool of statecraft can be seen in China's use of said force in the east and South China Seas, while using force in greater measures along the LoC.

Triumph in a military pressure point ensures achievement of strategic objectives while avoiding an all out conflict. No political leader wants his military to use force if it will lead to a regression in the country's economic development. Rediscovery of the application of force is necessary in this new domain, along with leveraging the various aspects of firepower, such as precision and manoeuvrability, if we are to usefully align ourselves with the evolving statecraft. RSOW domain must also consider other external realities, such as budgetary constraints (defence budget is currently 1.56% of the gross domestic product (GDP), with 80% of the budget going towards committed liabilities). Indian firepower strategy must be rooted in budgetary realities, which will lead to hard and stark choices to be made, such as the choice to invest in current threats or distant capacities of our weaponry.

Traditional domains of firepower are being overtaken by other kinds of domains, with precision-based weapons being given precedence over manoeuvrable weapons. (80% of Iraqi artillery was neutralised by US precision strikes during Gulf War II). Large-scale manoeuvres were conducted, possibly for the last time in the Sinai Desert in 1973 (Yom Kippur War).

Space and ISR capabilities are moving from enablers of firepower to decisive factors in a state of conflict. The new normal today are the integrated cross-domain capacities instead of a simple application of firepower. New pillars of operational architecture for India should be:

- Need for a build-up of robust cross-domain capacities to take care of any present and future threats along the Line of Actual Control (LAC) and LoC, to prevent future Doklam-type incidents.

- Strengthen operational capacities along the LoC to prevent any future Uri-like incidents (responding with greater effectiveness and precision).
- Resourcing cross-domain capacities in the RSOW domain may be less demanding financially as compared to the requirements for an all out war.
- Qualitative focused boosts to meet challenges such as prolonged face-offs need to be adopted. Priority over remote possibilities of across-the-board equipping will be more beneficial as useful tools for the Indian statecraft.
- The here and now requirements (UAVs for surveillance, long-range cameras with self-recording capability, etc.) on priority.
- As of today, development of space technology for tactical advantage is lacking, showcasing a need for dedicated military satellites, along with dedicated downloading centres and more robust communication between the services for inter-transfer of imageries and surveillance data that is necessary for enhancing the effectiveness of any operation.
- A boost must be given to the Research and development (R&D) for the Indian military to ensure delivery of useful products to the military (defence procurement procedure (DPP) must be given a thorough examination to ensure innovation and R&D for the services does not stagnate). Less bureaucratic procedure and more outcomes are necessary.
- Acquisition capacities must be upgraded to enhance the firepower of the Strike Corps, while also augmenting our delivery capabilities to enhance precision.
- Move from guns and rockets to missiles and other long-range vectors to hit viable targets more effectively.

The most significant threat comes from the People's Liberation Army (PLA) Rocket Force and the PLA Strategic Support Forces, giving the PLA global precision strike capacities. Giving every theatre command the conventional missiles capability gives the PLA an

advantage required to prevail against any perceived threat. Moving from a defensive orientation to a more offensive orientation along the LAC and LoC, to attack key points along the borders is a necessity. Increasing our ballistic missile defence (BMD) capacity, instead of a city-based BMD to take care of a nuclear threat, a change of focus to theatre-command BMD is necessary to protect our operational equipment. Also, exporting Indian missile technology to other developing countries in South East Asia would lead to a hemming in the Chinese hegemony and power in the region.

CONCEPT NOTE

"Fire without manoeuvre is indecisive; Manoeuvre without fire is fatal"

— Close Combat Marine Warbook

Introduction

Three important developments in the past few years have impacted the warfare in a significant manner that is, transparency due to all weather ISR capability, the advent of long-range, accurate and precise fire systems and the mobility of forces in all terrain. The nature and character of future wars are also being influenced by new concepts and technologies available to the protagonists. The global hotspots, namely, Iraq, Syria, Yemen, Afghanistan, South China Sea, North Korea and Eastern Ukraine are throwing up trends and changes in the contours of future warfare. Rather than the classical conventional wars fought by regular forces, the new forms of warfare like limited wars, proxy wars, asymmetric warfare, hybrid warfare, unconventional warfare, cyber warfare and informational warfare use all types of means, including irregular forces and social media. Adversaries in the present and future warfare will come in different hues, visible and invisible. These developments coupled with information explosion, media exposure and greater urbanisation have created new vulnerabilities and centres of gravity in the will of the nation. Seven decades of peace (absence of a world war) and development have created economic zones and urban areas which are crucial to the survival of the state, any disruption or destruction of these has major effects on the state of the country. For a variety of reasons, some of which will be political and economic, the use of overwhelming force against an enemy in a linear fashion will be replaced by the use of forces tailored to the specific needs of strategic objectives. Non-linearity and indirect attack on the war-waging capability of a nation brings exponential gains in the modern age. Fluidity and simultaneity are crucial to keep conflicts short, intense and decisive. The elements of meeting these tenets are manoeuvre and firepower, hence, their application

must be examined, analysed and factored into our future doctrines and strategies. Today, application of force is supported, synergised and enhanced by special forces, space and cyber.

Components/Enablers of Future Wars

Manoeuvre and firepower are two quintessential elements that play important roles in determining the outcome of wars. The history of warfare is replete with numerous examples of the employment of these elements not only to win battles but also to favourably and decisively influence the overall outcome of wars. The manoeuvre theory is a way of thinking about warfare rather than a particular set of tactics or techniques and its essence is defeating the enemy's will to fight rather than his ability to fight. Manoeuvre theory relies on speed, deception, surprise and the application of firepower and movement. The fundamental tenets of manoeuvre theory concentrate on applying strength against weakness, recognising and exploiting the war's inherent characteristics of friction, danger, uncertainty and chaos while also focusing on the friendly planning of defeating the enemy plan rather than defeating the enemy forces. Manoeuvre is applicable at all stages of warfare. Strategic manoeuvre incorporates the coordinated application of all elements of national power in support of national strategic objectives. Operational manoeuvre places forces, including their administrative support, in a favourable position relative to the enemy and occurs within a theatre of operations. Tactical manoeuvre employs physical and non-physical means to achieve a position of relative advantage over the adversary in order to accomplish the assigned mission.

Firepower, on the other hand, is the destructive capacity of a military force, that is, it's capability to deliver effective fire, normally through the use of missiles, gunfire, bombs or other projectiles. It is the kinetic power applied from a distance with short or long-range weapons that destroys enemy forces or saps the will to continue. While manoeuvre warfare accepts (and even encourages) risk-taking, with firepower, risk elimination is a higher virtue. Yet, firepower on its own has been perceived to have limitations in terms of not being able to achieve war aims and objectives without the employment of ground

forces (mechanised and infantry forces) to capture and take control of territory. Thus, both complement each other and need to be synergised optimally to defeat the enemy.

Special forces are playing an increasing role in warfare. Their integration with the conventional military is transforming the way conflicts are being undertaken. In addition to this, in modern armies the world over, army aviation has been interwoven into land battles as an intrinsic part to achieve surprise and increases the tempo of operations. Attack helicopters and armed drones not only provide tremendous firepower but also facilitate aerial manoeuvre to engage the enemy more effectively.

Space and cyberwarfare have added new dimensions by making war real time and distantly controlled, while eliminating collateral damage, to achieve the desired results. Cyberwarfare will invariably form an essential component of every scheme of future conflicts, where operations are likely to be intensely net centric.

In our operational context, the IA's likely area of operations extends over different types of terrain, which include riverine plains, deserts, hilly and mountainous regions. The terrain with respect to our Western adversary has undergone vast changes, especially in the last two decades due to the extension of the network of canals and other water bodies in areas close to the borders. The increasing dimensions of villages, towns, cities and other habitations in border areas due to population growth or infrastructural advancement has, in military terms, enhanced the terrain friction and constricted the manoeuvring spaces. Similarly, the terrain opposite Jammu and Kashmir is hilly and rises to become mountainous as it moves north, thus posing challenges for a large-scale military movement. On the northern and eastern borders with China, Tibet acts as a buffer territory interspersed with plateaus, whereas China's major economic zones and cities are located deep inside the heartland and biased towards its eastern coast, which are at larger distances from the border/LAC.

All future wars, if any, will be fought in a nuclear threat environment, hence, the tenets of nuclear warfare will form an integral part of planning. The use of tactical nuclear weapons will add to the complexity of operations and may lower the threshold. Hybrid war is focused on 'war on the nation', similarly in the future conventional operations, wars too must address the nation. The future and current capabilities of our armed forces are suitable to conduct a war as visualised above. All this seeks a fresh and holistic application of military thoughts to recalibrate Manoeuvre and Firepower strategies.

Objective

To enunciate and deliberate on the relevance, scope and role of manoeuvre warfare and firepower in IA context and the strategy IA should be adopting to be battle ready for future wars.

Venue

Centre for Land Warfare Studies (CLAWS), Delhi Cantonment, New Delhi.

Seminar Coordinator

The coordinator for the seminar is Col Anurag Bhardwaj, Senior Fellow, CLAWS.

PROGRAMME

1000–1030h	**Tea and Registration**
1030–1035h	Welcome Remarks by Lt Gen BS Nagal, Param Vishisht Seva Medal (PVSM), Ati Vishisht Seva Medal (AVSM), Sena Medal (SM) (Retired), Director, CLAWS
1035–1055h	Keynote Address by (TBC)
1055–1110h	Chairperson—Opening Remarks by Lt Gen Vinod Bhatia, PVSM, AVSM, SM (Retired), Former Director General of Military Operations (DGMO)
1110–1130h	Manoeuvre—A Detailed Analysis by Lt Gen AB Shivane, PVSM, AVSM, Vishisht Seva Medal (VSM), Former Directorate General of Mechanised Forces (DGMF)
1130–1150h	Manoeuvre—A Force Multiplier by Lt Gen Rakesh Sharma, PVSM, Uttam Yudh Seva Medal (UYSM), AVSM, Doctor of Philosophy (PhD) (Retired), Former Adjutant General
1150– 1210h	Role of Aerial Manoeuvre—New Dimension of Warfare by Lt Gen Gurmit Singh, PVSM, UYSM, AVSM, VSM (Retired), Former Deputy Chief of Army Staff (DCOAS) Society for Imaging Science and Technology (IS&T)
1210–1230h	**Tea Break**
1230–1250h	Synthesis of Firepower—Enhance Manoeuvre Speed/ Tempo/ Non Linearity/ Deep Battle by Lt Gen Vinod Vashisht, AVSM, VSM** (Retired), Former Director General National Cadet Corps (DG NCC)
1250– 1310h	Firepower Orchestration at Strategic Level—Address the Will of the Enemy Nation by Lt Gen Raj Shukla, Yudh Seva Medal (YSM), SM, Commandant Army War College
1310–1355h	Question and Answer
1355–1400h	Closing Remarks by (TBC)
1400h Onwards	**Lunch**