Empowering the Infantry: An Obligation and Challenge

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The role of infantry is to seek out and close with the enemy, to kill or capture him, to seize and hold ground and to repel attack, by day or night, regardless of the season, weather or terrain. This sums up the importance of "boots on the ground." The infantryman is expected to accomplish missions despite threat to life, despair, fatigue, injury, inhospitable terrain and weather conditions. Historically, the infantry remained an important battle winning factor in spite of revolutionary military affairs and the changing nature of conflict. The army chief's modernisation vision is to "adapt to high-end technology, improve night-fighting capability… information technology, information warfare and network-centric warfare."[1] This brings us to the fact that modernisation of the infantry is paramount to achieve the technological threshold imperative for facing the challenges posed by the changing nature of conflict and the need for integration with network-centric warfare.

The infantry is the only arm which has remained relevant throughout the evolution of warfare from the first to the fourth generation warfare. During the first and second generation warfare, infantry was the leading tool of war and a decisive force. In spite of the focus having shifted to mechanisation and long range precision weapon systems during the third generation warfare (post World War I), though infantry was pushed to the background, the queen of battle remained relevant and victory in battle was considered complete only when infantry put the "boots on the ground." It has been proved beyond doubt that the most potent

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arsenal in war is an infantry soldier who is unique in many ways; he is most efficient, capable of fighting against all types of adversaries and able to reach where no other weapon system can reach. Infantrymen are capable of operating in high altitude, desert, snow, jungle and even across the sea, whereas other components of war have limitation of terrain, weather or even the type of adversary. He can be inducted through land, air and sea to fight the conventional adversary, non-state actors, international criminal syndicates and even natural and man-made disasters.

Unrestricted war or asymmetric war has once again made the infantry soldier more relevant. Johan Arquilla has initiated the debate and questioned the wisdom of having heavy tanks, big artillery guns and big ships. It is perceived that undue focus on modernisation of huge conventional mechanised forces will lead to "generals preparing for the wrong war". The days of conventional conflicts may be over but the threat from non-state actors and state sponsored proxy wars is emerging as a major threat with cross-border linkages. War in Afghanistan and Iraq has rendered the conventional large armies irrelevant. What has emerged from the debris of war in Iraq and Afghanistan is the need to empower the infantry warrior to deal with an enemy which is neither visible nor are there defined boundaries of conflict. John Arquilla says, "The greatest problem traditional militaries face today is that they are organized to wage big wars and have difficulty orienting themselves to fight small ones. The demands of large-scale conflicts have led to reliance on a few big units rather than on a lot of little ones."[2] Therefore, what is imperative is to empower the infantry soldier so that he is prepared to face conventional and sub-conventional adversaries, large or small.

Though the world may not be facing the prospects of major conventional wars in the future, the same cannot be said about the Indian subcontinent. The chances of limited war under the nuclear overhang cannot be ruled out since India has territorial disputes with China and Pakistan in the mountainous sector. Proxy war in Jammu and Kashmir (J&K) and insurgency in the Northeast (NE) compels India to be prepared to face a two and half front war in the future. And if that be so, it is infantry which is the most significant arm to fight the limited war in the mountains and in the hinterland. The list of adversaries does not stop here; the infantry warrior is also fighting the battle of perception and the war of opinion, and even to do that, he needs technology to have situational awareness.

To deal with the combined threat from state and non-state actors, the infantry must prepare and build capabilities to deal with the changing nature of conflict. As a result, if "militaries don't keep up with the pace of change, countries suffer."[3] In the emerging milieu, the role of the infantry is not only restricted to the national boundaries but, over the years, the infantry has proved to be a vital arm for force projection being most robust, flexible and capable of quick transformation from one role to the other and from one setting to the other. In the backdrop of the above, the focus of modernisation should be the infantry warrior, so that he can fight conventional war in mountains, unrestricted war in rural and urban setting and adversaries even beyond the national boundaries.

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What is required to empower an infantry soldier? An infantry soldier must have the capability to acquire, identify, decide, disseminate and destroy the adversary in an environment where the boundaries of conflict are not completely defined, the enemy is partially visible and, above all, he is fighting a war in full public view. This he can effectively do if he is empowered by technology not merely as a shooting machine but as a smart sensor, capable of taking decisions, delivery of lethal firepower, able to protect from enemy actions and own negative actions due to error of judgement. The deduction, therefore, is that it is a compulsion to modernise foot soldiers or else, the nation will pay a heavy price in the years ahead since the adversary is becoming technologically empowered, and has the advantage of being even faceless.

Concept of Modernisation in View of Changing Nature of Conflict

Most of the Indian soldiers and junior commissioned officers are trained in the practical and common sense tradition, a legacy of the colonial era. The mindset is such that troops are happier with lightweight improved assault rifles and lightweight protective gear. They are yet not accustomed to handle multi-tasking computerised systems that will assist them to identify, communicate, engage the targets with the aerial weapon platform and shoot with the help of electronic sensors and laser designators. Modern wars are becoming lethal and more intense; therefore, there is no other way than empowering soldiers with

technology. In the light of the above facts, "the key to improve performance of the dismounted soldier is providing the 'right balance' between increased mission effectiveness and reduced weight burden."[4]

The infantry soldier is the most flexible and versatile element in the combined arms battlefield. To fulfil his mission, he needs to be proficient in many competencies and skills suitable to a broad variety of global situations and mission types.[5] Infantry soldiers are required to handle dynamic and complex situations during war and other than war. To be able to perform wide ranging missions, it is desirable that the infantry be developed as a system and integrated with the network-centric combined arms force. The endeavour should be "to achieve an integrated soldier system while retaining enough modularity so that the soldier can tailor what he needs for his task. If, for example, he comes to the end of a period of war-fighting and the operational situation shifts to peace enforcement, the last thing he wants is to have his helmet and body armour on when he is trying to deliver humanitarian aid. A soldier needs to be able to change his stance but retain the ability to use the system."[6]

When we talk of modernisation, it is a change of mindset, capability to absorb technology and structural changes in the organisation to operate in a volatile and toxic environment. The bigger questions are: where do we start, how do we start and what do we expect the infantry to accomplish? The answers to these questions lie in the following:

- Empower infantry soldiers and develop the infantry as a system in a phased manner to be able to absorb the pace of modernisation.
- Develop capability of operating in all terrain, all weather and against state and non-state actors in conventional and sub-conventional conflicts.
- Build capability of operating in a conflict zone as a part of a combined arms force, as a self-sustaining unit in a stand-alone mode and even as a small team behind the enemy lines.
- Build capability of interoperability with other arms and multinational forces.
- Develop capability to transform from the conventional to the sub-conventional and from the military to the non-military role.
- Enhance the survivability, endurance, mobility and fighting ability in the conventional, sub-conventional and chemical, biological, radiological, and nuclear (CBRN) environments.
- Develop the infantry as a capability-based force with holistic capability to operate against all types of adversaries.

It is vital to understand that the modernisation process is a deliberate exercise; what is modern today may be obsolete a couple of years later. But the bigger challenge is that it needs a huge budgetary allocation and training of personnel to develop and absorb the technology. Considering the above facts, modernisation, therefore, should be done in stages, and the first stage should be a change of mindset. The second stage is empowering the soldiers to enhance their combat effectiveness. The third stage should be to develop infantry soldiers and sub-units as part of the system. The final stage should be to integrate the system into a network-centric combined arms system. It needs to be clarified that the process of modernisation is not sequential – these stages can be developed concurrently – but what is crucial is that this process has to be gone through to achieve the holistic development of the infantry as a system. India has gone in for a concept, known as "Future Infantry Soldier as a System (F-INSAS) which basically aims at converting an infantryman into a fully-networked all-terrain, all-weather, weapons platform with enhanced lethality, survivability, sustainability, mobility and situational awareness" for the digitised battlefield of the future.[7] The concept is futuristic in nature, however, what is important is that this change cannot be brought about in a few years but needs considerable amounts of time and budgets. Once modernisation is put in place, there is a need to keep pace with the change.

Developing the human resource will play a pivotal role in empowering the infantry through technology.

Empowering Infantry through Modernisation

The first step towards modernisation is, in fact, a change of mindset to accept and absorb the technology and its usage in the changing nature of conflict. For the smooth transition of the infantry into an integrated system, the process of deliberation, debate and decision needs to be put in place. Transforming the infantry as a system without these steps may lead to turbulence and render the infantrymen confused. This process will assist in changing the mindset and will also lead to developing the system in a more holistic manner. Developing the human resource will play a pivotal role in empowering the infantry through technology, and to do that, there is a need to adopt the system approach to develop skill and aptitude and this is the key to change the mindset. The more important issue is that "armies can no longer rely on fighting wars on a linear battlefield, where one can easily differentiate between friendly and enemy lines.

The enemy's face has changed, as must our way of fighting. The mindset we must assume in fighting the enemy must also change."[8]

To empower a soldier, what is it that needs to be done? The most important aspect is enhancing survivability; other issues are battlefield mobility, enhancing his endurance, situational awareness and capability to see where the enemy is and what is he doing, eliminating or incapacitating the enemy with speed and violence, seamless communication, vertically and horizontally, and while doing so, ensuring balance between overall weight and his endurance. Therefore, the aspects which need to be gone into empowering soldiers are as follows:

- A ballistic shield is a vital equipment and its effectiveness is in its weight and protection. It should be ultra lightweight so that it does not compromise the agility and endurance of a soldier. Lightweight body armour like a tunic made of reinforced fibre plastic is a preferred choice. Additional reinforced fibre plates could be added to provide protection to cover vital body parts. This should provide protection from splinters and direct firing small arms weapons. The helmet is emerging as the most important gear for protection and communication, with even an eye piece with a radio display unit. The bottom line is in its fitting and weight.
- Mobility is a force multiplier which enhances endurance and increases survivability. Mobility to an individual may not be possible but cross-country robotic scooters and all terrain vehicles capable of lifting logistic loads and personnel are imperative.
- The efficient functioning of a soldier in the battlefield is a test of his endurance. His endurance is largely dependent on good health, quality of life, good clothes, food, water and ammunition. His clothes and personal equipment must cater for all weather and all terrain. Breathable, water and wind-proof battle fatigue for all seasons and all terrain is essential.
- Capability to acquire and identify the enemy. Sensors for monitoring of own troops and identification of friend and foe could be embedded on the helmet/ body armour. Weapon mounted night vision devices/ helmet mounted eye piece and all weather surveillance devices are a necessity. Radio display units to identify and engage the enemy are essential. Nano global positioning system (GPS) for locating each soldier is an added facility whenever troops are operating in small teams.
- The effectiveness of a soldier is in his ability to engage and eliminate the adversary. Therefore, a lightweight, long range and lethal personal weapon system is desirable. It must have provision for attachments to fire grenades/

small bore bombs and non-lethal gas canisters. A weapon mounted fire control unit is a useful device, provided it does not affect the lethality and accuracy of the weapon.

- Helmet mounted, short range, hands-free radio set with a throat mike to keep the voice low.
- The survival of a soldier is in his ability to retain agility and physical endurance. In the light of the above, empowering our soldiers with new technology while reducing the load they must carry is a primary challenge.[9]

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"The real challenge is about optimising the power, weight and space on the soldier and also achieving a measure of control. What is desired is that he should not become a slave to the tools."[10] It needs to be understood that while we consider empowering every soldier with the above mentioned capabilities, what is more important is to identify who should be equipped with what. Empowering of the infantry soldier is required to be done carefully: first, with the basic equipment and, then, task oriented equipment which may be carried between buddies, squads or even sections. Basic equipment should include protective gear, short range communication, personal weapon with day and night fighting capability, sensors for identification of friend and foe and even a personal digital unit, which is a powerful tool for situational awareness and a decision support system for tactical commanders. Squad commanders and section commanders should have the head-up display unit, area surveillance device and nano GPS system. The systems should be based on modules which are multi-tasking and multi-purpose to avoid unnecessary burden on soldiers. There is a need to introduce the hand-held lightweight thermal imaging target acquisition systems, including the laser rangefinder, compass and GPS. This system is multi-purpose and multi-tasking. Such modules will assist in reducing the load and inventory.

Conventional and sub-conventional wars in the future will be more intense and highly lethal. This would warrant synergised and swift response to enemy provocation. Therefore, the third stage of modernisation in my opinion should be to develop the soldiers and units into a sub-system to respond with speed and violence in a short and swift war. The system so developed should support

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planning, situational awareness, target handling, connectivity as well as video and map displays of own and enemy forces. This system should provide connectivity and synergy among armoured, artillery and logistic support units. Integration of soldiers and sub-units as a system would mean command and control, interoperability at unit and sub-unit level, target acquisition devices, improvised explosive device (IED), neutralising robotic device, fire control system and all weather surveillance. Secured and alternative communication systems, both VHF and HF, comprise the most crucial element for connectivity and integration.

The final stage of modernisation of infantry is to integrate the infantry in the network-centric combined arms system. Secured and uninterrupted communication (voice and electronic data transmission) is central to integration of the infantry with the net-centric warfare system. This is the level where force multipliers and all other components of war are integrated. This would involve seamless communication among armour, artillery and logistic units with infantry at one end, and on the other end, this system should provide freedom to the commanders to interact directly with air and operational fires as and when the situation so demands. This integration is needed at both tactical and operational levels. In simple language, the infantry unit should be able to access intelligence and real-time information in the form of visual as well as data transmission from elevated platforms and other intelligence agencies and thereafter should be able to engage the adversary with suitable land, air and long range precision missile systems. Even the small teams operating behind enemy lines should be able to acquire and engage value targets with long range precision strikes. The tactical intranet geographic dissemination system for two-way real-time transmission of information should be authorised to commanders from company level and upwards. At the same time, they should be able to transmit the value information to the concerned forces for engagement/ neutralisation.

Infantry soldiers and commanders will be operating in an information overload environment. Sifting and analysis of information is crucial in the highly fluid and fast changing battlefield milieu. What the troops and commanders need on the ground is a computer processing system to highlight what is affecting the troops in contact, commanders at the tactical level and the information

impacting operational commanders. The task of sifting should be that of force multiplier command posts which should be linked vertically and horizontally to provide the real-time information. The situational awareness system is the brain around which the rest of the components should be linked to make the system efficient and effective.

Threats from unethical warfare cannot be ruled out. As a consequence, infantry soldiers should be prepared to deal with the threats emanating from CBRN and human bombs as well. Detection and neutralisation of both these threats need special protection and equipment to detect the threat in time. Therefore, a certain percentage of troops should be equipped with special gear and equipment. Another field which needs consistent emphasis is sustained and predictable investment in research and development to keep ahead of the adversaries and maintain a readiness profile against emerging threats – both traditional and non-traditional.

Empowering the infantry soldier technologically is an obligation for the security of the country. This empowerment cannot be done in a short span. It would need sustained efforts and a perspective plan without any disruption. The model which must be adopted should be cyclic rather than like a pyramid or ladder.

Notes

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