

CHARACTER OF FUTURE MILITARY CONFLICT IN SUBCONTINENT



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Abstract

Driven by technology revolution, character of war has transformed in 21st Century. Axiomatic 'fog of war' no more applies to combat zone due to omnipresent 'eye in the sky', mounted on multifarious sophisticated reconnaissance and surveillance aerial and space craft. Application of Ends, Ways and Means, the three corners of operational strategy triangle, is being conceptualised under new military realities. Attaining ultimate aim of breaking adversary's will by way of traditional 'Ends' of capturing vital territory through 'Ways' of spectacular manoeuvres conducted by 'Means' of large size ground trotting mechanised formations have become unfeasible. Non-contact warfare means augmented by information operations are being increasingly relied upon to induce demoralisation and cause paralysis through destruction of critical civil, military infrastructure and neutralisation of command and control centers.

Buoyed by its geo-strategic alignment with United States (US), Indian military is rapidly inducting high end Intelligence, Surveillance and Reconnaissance (ISR) systems and advanced stand-off weapons. Though Pakistan Army is fully cognizant of emerging trends, it is hamstrung by limited financial resources of the country. Remaining within available budgetary means, Pakistan Army will have to revisit its warfighting concepts and re-configure itself according to dictates of changing character of war.

Keywords

Character of War, Technology, Battlefield, Transparency, Drones, Surveillance, Information Operations, Hybrid Warfare, Military Conflict.

Introduction

Nature of war is constant. It is contest of opposing wills where submission of enemy to ones will is the ultimate goal. An extension of politics by other means i.e. war, without clear political objective is meaningless violence. However, character of war is an evolving phenomenon which changes with evolutions in technology, social behaviour, political organisation and cultural norms.

Riding on the wave of knowledge revolution, war is fast becoming technology intensive. Throughout history, weapon systems have been foundation of military strategy. Technology breakthroughs result in introduction of newer weapons or platforms which in turn lead to development of doctrines for optimal employment on battlefield to attain military objectives of war. Taming of horse resulted in introduction of cavalry, long bow, gun powder, musket, breech loading rifle, steam engine, tank and aircraft can be listed as examples where invention revolutionised warfare. Armies which fail to absorb impact of technology on war have often been routed by their adversaries despite being superior in numbers. Fall of France in six weeks to German Panzers is an illustrating example in modern history which was caused by failure to develop doctrines exploiting true potential of tank and aircraft despite possessing superior platforms and greater numbers.

Aim

To discern impact of technological advancements on character of future military conflict in Indo-Pak context.

Scope

In contemporary information age, war is a multidimensional endeavour where military conflict constitutes only one of its myriad components. Though Pakistan is already subject to an intense hybrid war however, discussion in this article will remain limited to operational environment likely to be faced by Pakistan Army in 5-7 years.

Contextualising Military Power in An Era of Hybrid Warfare

War, a permanent feature of human social behaviour is constantly evolving. As Clausewitz said, "**the first, the supreme, the most far reaching act of judgement**

that the statesman and commander has to make is to establish by that test the kind of war they are embarking; neither making it for, nor trying to turn it into something that is alien to its nature."

War is fast transforming in 21st Century. Availability of weapons of mass destruction, mutual dependence of nations on global economic web and global human rights movements have created a general aversion to more traditional forms of war. Before discussing influence of technology, it is pertinent to briefly explore place of military power in 21st Century warfare.

Having passed through four generations of evolution, war impelled by information revolution has metamorphosed into 5th Generation; its most complex form yet. This post-modern conflict widely known as Hybrid Warfare can be defined as "synchronised use of multiple instruments of power tailored to specific vulnerabilities across full spectrum of societal functions to achieve synergetic effects". Hybrid Warfare actors exhibit capabilities to synchronise various instruments of power against specific vulnerabilities to create linear and non-linear effects. Application of military, political, economic, civilian and informational instruments is managed both in scale and intensity to create desired effects.

Non-kinetic components of Hybrid Warfare include diplomacy, information operations, dissension, subversion, economic warfare and espionage among many others. While kinetic components include military power, insurgents, terrorists, special forces, black operatives and violent agitations etc. Hybrid



Warfare is designed to create, regulate and manage multi-dimensional chaos in target state to either cause implosion without application of military instrument or shape environment for its cost effective application. Military instrument though relegated to a lower priority, is critical tool of Hybrid Warfare. Success of other instruments largely depends on military power differential of adversaries. Moreover, all other instruments basically aim to displace military power of victim thus making him vulnerable to internal upheaval or external aggression with minimum capability to resist. It is this domain of Hybrid Warfare which predominantly concerns a military man.

Evolving Character of Military Conflict

Technology revolution is transforming the way armies fight wars. Outcome of military conflicts in past three decades has been overwhelmingly decided by technology. Though most of these wars were asymmetrical in nature yet they have set direction for modern militaries to follow. They were marked by battle space transparency, network centrality and precision fire power. Space, cyber and electromagnetic warfare capabilities are resulting in faster detection and destruction while denying same to enemy. Survivability of military forces under highly pervasive surveillance environment has become a huge challenge. Radical new technologies are redefining military state of the art. Focus is on non-contact warfare where firepower from land and air assumes importance over ground manoeuvres. There is excessive reliance on stand-off weapons; highly precise missiles and long range rockets. Already large portion of ordnance being used consists of stand-off, smart and precision ammunition. Aforementioned factors create an operational setting where meaningful territorial gains are possible only under environment of complete air dominance (US vs Iraq, Azerbaijan vs Armenia). Without air superiority mechanised forces are unable to advance and secure territory due to vulnerability of tank/ AFVs to modern ground and aerial anti-tank platforms. With opportunities for classic employment of armour shrinking and large scale manoeuvres both in magnitude and scope no more feasible, extensive employment of infantry is needed even for limited spatial gains leading to slow tempo besides immense attrition (Russia vs Ukraine). Therefore, adversaries are resorting to long range fires to create strategic/ operational effects by inducing demoralisation and

paralysis through destruction of military assets and critical infrastructure in depth.

Proliferation of drones to even less developed nations has added a whole new dimension to war. With endurance to lurk in sky for long hours and much cheaper than manned aircraft, armed drones have become capable to even determine outcome of a military conflict. During Nagorno-Karabakh war, Azerbaijan skillfully employed Turkish made Bayraktar TB2 armed drones and Israel's kamikaze drones which home-in on radar emissions. According to open sources these drones crippled Armenian Army by destroying 47% of combat vehicles and 93% of artillery pieces. Before this war, successful employment of drones also in Syria and Libya indicates that transformation of warfare by unmanned technologies is accelerating. Armed drones are likely to replace manned aircraft as primary vehicles for aerial strikes in near future.

Highly accurate strikes on Saudi oil facilities claimed by Houthis using cruise missiles and kamikaze drones and ballistic missile strikes by Iran against US air bases in Iraq after killing of Quds Force commander, signify a trend where strategic effects can be created through skillful employment of rather relatively cheap technologies. While a F-35 fighter jet costs approximately USD 100 Million, an average armed drone costs only few Million USD. Numerous varieties of self-destruct anti-radiation drones cost as low as USD 500,000. Orthodox offensive doctrines employing large ground formations or prolonged air campaigns are fast becoming thing of the past.



Indian Quest for Military Modernisation

Indian military is incrementally carrying out reforms to align its organisational structure with the needs of a techno-centric conflict environment. Most pivotal among these is appointment of Chief of Defense Staff (CDS) who is expected to push reforms to create jointness, overcoming entrenched service interests. Though he does not yet exercise any administrative or operational control over services, CDS has been given mandate to create joint commands. His objective is establishment of joint operational commands beginning with joint air defence command, maritime command and finally geographically defined joint theater commands. Through appointment of CDS, PM Modi government has also addressed perennial complains of Indian military about sluggish bureaucracy slowing down induction of new weapon systems and its lack of representation in strategic decision making. Intent to harness potential of technology and build niche capabilities in cyber and space domains was already clear in 2019 with raising of Defense Cyber Agency and Defense Space Agency besides Armed Forces Special Operations Division to improve upon capabilities of special forces. Acquisition of state of the art capabilities in cyber and space domains will result in enhanced surveillance, detection and targeting capabilities.

Bent upon finding space for military conflict below nuclear threshold, Indian military is working feverishly to find ways to attain decisive edge over Pakistan at operational level. Its fast developing

stand-off and non-contact warfare capabilities alongside organisational and doctrinal changes at strategic level are set to transform military conflict environment in short to medium term.

Indian Army has already operationalised land based long range vectors in the form of 600 km range Brahmos cruise missile alongside Smerch and Pinaka multiple launch rocket systems with range upto 100 km. Large fleet of UAVs is being further expanded and upgraded at a fast pace. Advanced surveillance and armed UAVs procured from US and Israel are in various stages of induction besides indigenous production of numerous types under transfer of technology agreements. Contracts for procurement of Guardian surveillance and Predator C armed UAVs from US have been concluded while Israeli Heron UAVs are being upgraded to armed drones. State of the art artillery fire detection and ground surveillance radars procured from US and Israel have also been made part of inventory. Ground surveillance capabilities will be immensely augmented after delivery of Intelligence, Surveillance, Target Acquisition and Reconnaissance (ISTAR) Raytheon aircraft from US capable of scanning 30,000 sq km area in a few minutes. If required, few of P8I (Poseidon) maritime surveillance aircraft held with navy can also be diverted to ground reconnaissance role.

Organisation required for fusion of input from several ground and aerial sensors has been put in place at various tiers from division through corps to command



headquarters. Artillery headquarters at these tiers have been made responsible for collection and collation of information. With UAV, cruise missile and long range rocket regiments an organic part of artillery headquarters at same levels, it will translate into a well synthesised and quicker detection, selection and engagement process.

Induction of Apache gunships is a major development which provides India capability to effectively engage mechanised formations from stand-off distances. After induction of S-400 and Barak-8 air defence systems and their integration with 4.5 generation Rafale aircraft, India will attempt to seal off selected zones for unhindered employment of its air force, UAVs, gunships, missiles and long range artillery. Besides procurement of Rafale aircraft, India is also upgrading its existing fleet with latest electronic warfare suits from Israel in addition to procuring huge numbers of guided munitions.

To top it all, Indian satellite surveillance capability has acquired an enormous boost as result of Basic Exchange and Cooperation Agreement concluded with US in 2020. It will enable India to tap data collected by US satellite constellations for real time information on her adversaries. Access to military specific data collected by state of the art satellites will give huge advantage to India. It can be safely assumed that US will share critical intelligence during any future stand off to help India gain military advantage and avoid any embarrassment. Enhanced space capabilities will also reduce dependence upon UAVs for surveillance, sparing resources for investment in armed drones.

Upward trajectory of modernisation and induction of technology is likely to continue even at a greater pace due to US largesse in terms of access to latest technology as a consequence of new geo-political alignments in Asia and strategic role accorded to India. Scholars agree that militaries change their doctrines in response to threats and opportunities presented by new technologies or insights they gain from observing other conflicts. Acquisition of new equipment and induction of modern capabilities eventually lead to new theories of victory and doctrinal changes that enable a range of responses in transformed strategic environment. A scholarly debate has already started among Indian security community on feasibility of

seeking strategic effects through ground operations. Increasingly, large ground trotting strike formations are being viewed as redundant elements, unsuitable to play any meaningful role in prevailing strategic paradigm. Strategists are instead advocating for development of enabling capabilities to conduct smart multi-domain operations. On its part, Indian Army seems to be dithering between need to create all arms light-footed battle groups which are cornerstone of much trumpeted proactive strategy and its unwillingness to part with fascinating but lumbering strike corps.

Impact of Technology on Military Conflict in Subcontinent

Rapidly enhancing surveillance, detection and targeting capabilities of both India and Pakistan portend an environment of highly transparent battlefield where any sizeable movement and large signature will be at risk of quick engagement. Data feeds from satellites, drones, reconnaissance aircraft and ground radars will be synthesised at networked intelligence fusion cells at various headquarters with ability to instantly task appropriate fire assets for engagement. Armed drones will be employed to take out command, control and communication nodes in addition to engaging radars, artillery gun positions and air defence sites.

Cruise missiles will be used to target bridges, critical installations, air fields, aviation bases and headquarters. Long range rockets will be employed against troop concentrations and assemblies,



to disrupt employment of reserves, destroy logistic installations and pulverise defences in support of offensive operations. Air Force will be employed against targets of high economic, military and psycho-social importance to inflict pain and induce demoralisation. Application of fires will be non-linear, covering whole battle space from tactical to strategic depth. Special forces are likely to be employed against targets which have high optical value with success duly publicised to showcase military superiority over adversary. Besides jamming adversary's communications, electromagnetic spectrum will also be employed to render UAVs' flight control systems ineffective. Cyber operations will be extensively employed to steal information, disrupt essential civic services, spread disinformation and hack websites owned by adversary's government and commercial entities for displaying one's prowess.

In a highly transparent operational environment movement of ground forces especially, mechanised formations will be exposed to detection, interdiction and destruction. Surprise and deception essential for success of land manoeuvres will be extremely difficult to achieve. Defence will be a much superior form of warfare due to minimal chances of being surprised. Least chances of success of glorious orthodox manoeuvres will instead push operational art towards creating strategic effects by generating superior fire manoeuvres.

Combined effect of strategic calculus, balance of traditional forces and acquisition of advanced weaponry foreshadows Indian aspiration for a short and swift military conflict encompassing high technology multi-domain operations. Plan may envisage only a package of strikes centered on advanced weapon systems destroying high visibility targets with options retained to further expand fire manoeuvre to maintain dominance. Victory will be defined narrowly and exit points retained at every stage. India will endeavour to maintain escalation dominance at lower rungs while fully arrayed and cocked ground formations will seek to disincentivise any upward movement along escalation ladder. Military conflict may entail only few pre-meditated strikes and counter-strikes followed by a quick declaration of victory or expand to brief but intense engagement of ground formations alongside air force and naval assets. Shallow ground thrusts to

cease territory may be resorted to only as opportunity operations to compound embarrassment for adversary. Aim will be to cause embarrassment and induce feeling of helplessness, targeting national will through intense information operations amplifying achievements.

Recommendations

Stretched in multiple directions with conflicting demands, ranging from need to have boots on ground in internal security operations to maintaining readiness for conventional war, all within a feeble economy, Pakistan Army must deny technological edge to adversary at operational level. We must invest in future technology and focus on indigenised manufacture of affordable long range weapon systems in abundance. Aim should be to maintain capabilities for assured successful retaliation at all levels of conflict denying incentive for application of military instrument. Imperatives of future conflict include not only weapon systems but also highly trained human resource and pertinent organisational structures. Pakistan's primary challenge is to strike a balance between its security needs while at the same time avoid getting bogged down in a costly arms race. Given financial constraints we may have to relook at our organisation and concepts in order to cut down non-essentials to save costs. New systems cannot be simply bolted onto existing organisational structure. To be fully effective, organisational architecture will require doctrinal and structural changes.

Large scale ground ceasing operations have become outdated in Indo-Pak context due to combination of nuclear capability and high battlefield awareness. Though it remains most dangerous scenario however, our response needs to be based on most likely scenario. Readiness for most dangerous scenario does not necessarily translate into success in most likely scenario as two are at different levels of warfare, with significance of technology being higher at lower rungs. Therefore, as a safeguard against most dangerous scenario we may consider only agile and fire power packed formations for assured denial of territory and to inflict prohibitive costs on any ill-conceived operation while strategic effects are sought through application of superior operational fires. Pakistan cannot afford to embroil itself in an arms race matching regiment for regiment, tank for tank or missile for missile. We only need to possess such capabilities as to inflict prohibitive cost at each level of conflict.

Meanwhile, our field formations should become self-contained in target acquisition and long-range strike capabilities. Being already located well forward, Corps headquarters need to be developed into hubs for fusion of all ISR feeds from reconnaissance aircraft, UAVs and ground surveillance radars. These hubs should also be connected with a central satellite ground station for quick sharing of data. Surveillance UAVs of matching endurance, flying radius and reconnaissance capabilities should be made organic part of all setups from units through Division to Corps. Artillery divisions should become a repository for long range fire assets including armed drones, missiles and multiple launch rocket platforms. Indian desired superiority in air being pursued through combination of S-400 and 4.5/ 5 Generation aircraft can be effectively offset by developing assured long range strike capabilities from ground based assets.

Space will be a crucial part of future military power. To be a first grade military force in 21st Century it is imperative for Pak Army to develop a robust satellite capability. Until development of indigenous capabilities an agreement similar to Basic Exchange and Cooperation Agreement (BECA) can be concluded with a friendly country for sharing intelligence.

Conclusion

As a state facing enduring rivalry from a much larger adversary it is necessary to maintain capabilities to deter aggression by denying victory at all levels of conflict. However, we cannot hope to win tomorrow's war with yesterday's approach. Therefore, it is essential that we tailor our organisational structures and update doctrines to meet challenges of a war whose outcome to a great extent will depend upon superior technical prowess.

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