Army-Air Force Synergy:
Emerging Issues and Imperatives

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Introduction

Though a Joint Air-Land Operations Doctrine has been formulated by the Headquarters Integrated Defence Staff (HQ IDS) in June this year, it remains in the restricted domain.[1] Therefore, a critical appraisal of the same may not be possible. The goals of the doctrine are to establish a framework for synergistic application of joint air-land power. The joint doctrine also lays down organisations and procedures to leverage technology for conducting joint air-land operations in a conventional war scenario. However, in many of the land and air forces of the Western countries, especially those of the US which are considered as paragons of jointmanship, the existence of many warts and wrinkles in the respective Service's approaches to the concept of air-land battle is not unknown. Land forces are responsible for conduct of combat operations 'on' land while air forces are responsible for conduct of operations 'over' land (as also the sea). The scope of 'on' land is constantly changing in response to technological developments, the strategic environment and the requirements for conduct of operations at the operational and tactical levels. These changes in the environment and the ends to be achieved are manifested in the evolution of tactical and operational doctrine and force development to support the same, within the constraints of available resources.

It is axiomatic that overlaps at the edges of the perceived domains of operation of the army (as the preeminent land force) and air force would need to be coordinated and a via media arrived at. Since resource constraints are present even in advanced economies, unresolved overlaps can lead to sub-optimal

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allocation, at the least. In the worst case, competition over scarce resources may become prolonged, or institutionally entrenched, with a consequent delay in development of capabilities. Such conflicts and delays would likely increase the risks associated with the military and national security strategies.

In the above background, it is proposed to discuss the prominent and emerging issues relating to operations of the army and air force and to examine whether additional synergy can be obtained.

Identification of Issues

The identification of the issues can be carried out from a three-dimensional framework of space, time and functional capabilities. The space dimension refers both to the surface plane as well as the vertical plane—in a way, it is about the 'envelope' in which land force operations are conducted and supported. The time dimension is of relevance as the space dimension is not static – it changes with the evolution of the conflict scenario from conceptual planning through operational planning to actual combat and conflict termination. The functional dimension is relevant as there are several functional capabilities like air defence, air space management, intelligence, degradation and command and control that are developed concurrently by both the Services.

De-conflicting the Space Dimension

The space dimension is the main source of conflicts and dissonance between the army and air force. The horizontal envelope of the army's operations is expanding with the development of technologies that increase the ranges of its long range weapons; this includes longer range guns, rockets and missiles like the SMERCH and Pinaka and missiles like the Prithvi. This increase is required to be supported by corresponding target acquisition and post strike damage assessment (PSDA) capabilities, manifested in the increased focus on acquisition and operation of unmanned aerial vehicles (UAVs) and real-time imagery intelligence (IMINT) capabilities. Similarly, particularly in the Chinese context, the army's entire mobilisation plan depends on a correct and timely assessment of the movement of Chinese formations at greater depth than hitherto done in the Pakistani context. Since its own mobilisation and deployment is so intricately linked to movement of enemy forces in depth, the army views space as integral to land force operations. Reversing the perspective towards own territory, the Chinese doctrinal emphasis on escalation dominance and 'anti–access' strategies implies that the army needs to be confident that its own command, control and

communications (C3) infrastructure in depth would survive a preemptive Chinese attack and that stage management and movement of own forces would not be compromised. Therefore, traditional emphasis on air defence (AD) of critical vulnerable areas/vulnerable points (VAs/VPs) has now expanded to effectiveness of theatre AD, especially during the pre-mobilisation and mobilisation phases. Such emphasis can well be understood in the context of the vulnerabilities in specific areas, for example, the Siliguri Corridor.

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Thus, with 'information dominance' becoming an evocative objective, the reliance on satellite-based platforms will continue to grow. While all three Services are natural users of the space segment, the army considers itself to be one of the major users of space-based assets. Similarly, the navy is also a key user of space. An Integrated Space Cell has been established at HQ IDS to act as a single window for integration among the armed forces, the Department of Space and the Indian Space Research Organisation (ISRO). However, setting up of an Integrated Tri-service Space Command[2] to include the army, air force and navy components would ensure an enhanced level of synergies in the space dimension.[3] Such a measure would also mitigate inter-Service rivalries in this domain.

The Time Dimension

The most obvious manifestation of the time dimension in the army-air force relationship is the change in the army's usage of the space dimension from peace-time to operations. During peace, the army's use of the vertical envelope is highly limited and primacy of control by the air force is both logical and well accepted. The mechanisms and processes on mobilisation and commencement of operations necessarily require change from those existing in peace. The efficacy of the actual changes can either be tested in conflict situations (which are rare) or in exercises during peace. Since such exercises, particularly those involving both the Services, are rarely scaled at high enough levels to put the envisaged systems under actual test, there is bound to be inadequate confidence in them. This cannot but have adverse implications for force structuring decisions with the result that either capabilities will be duplicated or actual threats will be inadequately addressed in the belief that these would be taken care of by the 'other' Service.

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A more important issue in the time dimension is the overall conduct of the conflict itself. The oft stated 'assumption' that future conflicts would be 'short' remains what it is—an assumption. However, taking the assumption at face value, in such a 'short' conflict, the situation obtaining at the end of the conflict would be the key to determining if the conflict yielded any worthwhile pay-offs at all. The aspects that would be relevant are whether adequate damage was caused to the enemy's military potential (to either coerce effectively or to deter further conflict), the contours of territorial control and whether either side had the wherewithal to react proactively at each level of military escalation. While the air force plays a critical role in escalation management due to its inherent flexibility, destruction of the opponent's military potential can also be achieved by the army if a significant proportion of enemy potential can be brought to battle. Both these objectives point to greater emphasis on the depth battle and a longer period of stand-off conflict before intense combat is joined by the land forces.

The examples of the two Gulf Wars gladden the hearts of the proponents of air power as the means to bring the enemy to strategic defeat. While such a posture is of great relevance to a superpower or a coalition taking on a 'rogue' state, the circumstances of conflict between 'near peer' adversaries with a common and contested border lay great store by the alignment of the actual 'line of control' before and on termination of the conflict. In such a strategic environment, concepts like 'cold start', 'preemption' and 'improvement of defensive posture' have great resonance as they ensure early capture of territory, even though the ground objectives may lack enough 'value.' If the air force is comfortable with a military strategy envisaging a significant air offensive preceding land operations, while the army remains focussed on achieving or denying quick territorial gains, there is bound to be dissonance in operational and tactical level planning. Platitudes towards 'jointness' during annual operational training 'events' cannot, then, eliminate mistrust between the supporting and supported services. If the combat power brought to the tactical battle by the supporting Service is routinely

discounted for lack of adequate interaction or modelling, the plans of the supported Service are likely to be upset early in the conflict.

The Functional Capability Dimension

Overlaps in the space dimension are the most obvious cause for unresolved issues in the functional capability dimension. Degradation, air defence (AD) (particularly control and reporting), intelligence, command, control and movement are the prominent issues requiring more deliberation.

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Degradation

The existence of air arms in the armies of advanced military powers provides a clear indication of the universality of the inter-Service tension between 'degradation' of enemy military potential as a land forces function and the provision of 'close air support' or the conduct of 'counter-surface force' operations by air forces. It is, therefore, hardly surprising that the issue would arise in the Indian context. The preeminence of the land force artillery in the immediate tactical battle area (TBA) is well established. Indeed, the air force is less inclined to engage in operations at such depths in the TBA due to uncertainties in demarcation of the FLOT (forward line of own troops) and the vulnerabilities of low flying aircraft if they have to operate at lower speeds. Hence, even at close ranges, the 'stand-off' mode of attack is the one preferred by all air forces. In the Indian context, the high altitude battlefields in the northeast are not entirely suitable for such operations. Therefore, the army is forever apprehensive about whether enough 'close air support' would be available at the decisive moment.

While technical and weapon constraints may raise doubts about the availability of close air support, the potential planning conflicts at longer ranges stem almost entirely from a lack of effective communication between the two Services about the plans to address targets at operational depth. The army seeks greater access to, and control over, long range rockets and tactical missiles, while the air force has its own perspective on the trade-off between aircraft and missiles. The missing link leading to lack of mutual confidence is a shared target analysis system with clear

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assessments of target degradation with a specified level of confidence. Since such an assessment would require a clear commitment of resources by either Service, effective communication and confidence would be an automatic consequence.

Air Defence

Unlike the other functional capabilities, the preeminence of the air force in AD is not an issue of contention. The critical issue is the requirement of dedicated point or area AD for the land forces' tactical components. Special operational circumstances that accentuate these requirements are operations in mountainous areas and mechanised forces operating deep inside enemy territory. The trade-off between land forces owned area AD and that provided by the air force in terms of effectiveness, responsiveness and cost, is complex and rarely studied in detail at an inter-Service level. As a result, either force development proceeds on independent tracks (raising possible risks) or leads to stand-offs in the acquisition cycle (a cause of certain capability voids).

Intelligence

Technical intelligence is becoming the main source of all intelligence. This is due to developments in electronics, computers and aerial platforms. Another reason for this increased dependence, especially with respect to China, is the low prospects for human intelligence gathering due to the closed nature of the social system there as well as pronounced cultural and ethnic dissimilarities. Accordingly, the army is increasingly dependent on airborne capabilities for intelligence gathering, even at tactical depths. It is also interested in extending its 'area of interest' since the speed of enemy operations is increasingly such that their movement from the 'area of interest' through the 'area of influence' to actual tactical application against the land forces happens over a very short period that does not give enough time to the land forces to position themselves in an appropriate manner. The desire to obviate 'strategic surprise' puts the army and air force in direct contention for control of strategic intelligence gathering assets, be they based on satellites or UAVs.

Command and Control

Command and control is an essentially 'internal' capability for each Service. The issue has acquired new resonance because of the requirement of joint operations and the enhanced information system requirements of structures like Joint Operations Centres (JOC) and Joint Air Defence Centres (JADC). In this context, the army has a dedicated communications organisation with the capability to establish and operate communications infrastructure from the rear areas to the forward edge of the TBA. The air force traditionally relied on point to point microwave/troposcatter links or on capability hired from the public sector long distance communication providers. The main problem arises when joint structures like the JADC and JOC operate well forward and the air force falls short of the capability to integrate them into its own corresponding systems. A related problem is the insistence of each Service to devise its own secrecy systems. The integration of the information systems (including the underlying communications networks) remains an unresolved, and often contentious, issue.

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Movement

Non-linear operations in the modern context and the increasingly strategic implications of tactical actions call for a rapid response capability, at both the operational and tactical levels. The complexity of the operating environments in operations other than war (OOTW) and the difficulties of surface movement drive the desire of the army to have tactical air mobility at a higher scale than that currently available. The requirement is made more pertinent in a scenario of limited war where the ability to respond rapidly to any escalation is far more important than the ability to mobilise and conduct large scale operations. Therefore, an expansion of its own tactical air mobility capability is seen by the army as an integral part of its ability to manoeuvre at the operational and tactical levels. This treads into the conventional domain of the air force, leading to pulls and pressures in the force development and acquisition processes.

Prospects for Enhancing Synergy

The space, time and functional capability dimensions have enduring as well as emerging characteristics that lead to a natural state of dissonance between the army and air force. This dissonance can be addressed through a host of organisational, procedural and technical measures. The approaches adopted by different countries and the results achieved have been varied according to their special contents.

Organisational Measures

Unified Command Unified command is the most obvious approach to resolving any inter-Service issues. Examples of the same are the unified geographical commands of the US military. Such an approach has not found much favour in India. Even the prospects for the same are remote since such a scheme requires direct interface between the political authority and the unified theatre commander – something quite unusual in the Indian system.

Joint Command The next approach to improving organisational synergy is through the creation of 'joint' structures. These may be at the national level like the Joint Chiefs of Staff, at the theatre level or at the operational and tactical levels.

In the Indian context, the post of the Chief of Defence Staff (CDS) has been under discussion for a long time after Kargil. Despite its confusing title, all it envisages is a more joint system at the Service HQ level, of which the HQ IDS has already been created. The nine years of existence of the IDS have already shown the limits of such jointness that can be achieved if the Services are left to resolve the issues entirely on their own. It is also apparent to even the most casual observer of the scene in Delhi that of all the Services, the air force has been the most critical of attempts at increasing jointness, including giving more teeth to existing structures. In the bureaucratic maze of the national capital, it is a well appreciated position that unresolved issues between the army and air force have given great leverage to civilian bureaucrats wary of losing a degree of control, which would happen if effective jointness was achieved at the national level. Given the above analysis, it is apparent that the practical limits of jointness have already been achieved at the Service HQ level, unless the political leadership wishes otherwise.

It is also clear that whatever jointness may have been achieved already, most of it does not extend to operational issues. Since these issues are live at theatre level, many experts have called for 'Joint Commands' according to geography. Again, while paying lip-service to 'examination' of the concept, neither Service appears to be in any hurry.

It is, therefore, clear that the issues discussed in the previous paragraphs would have to be tackled without the luxury of any major organisational overhaul. Fortunately, modern technology offers several options to improve synergy through the introduction of 'integrated systems' that enable 'joint control' to be achieved more effectively. Hopefully, some of the issues would have been resolved with the promulgation of a joint doctrine for air-land operations. However, looking at the past record of parochialism of the Services on such issues, there is a considerable degree of scepticism that air-land dissonance would have been addressed in the joint doctrine in a meaningful way.

Joint Control In the absence of mechanisms of command, jointness has traditionally been attempted through structures like the JOC and JADC that enable joint control. It is clear that dedicated structures do not exist for functions like air space management, intelligence and movement, with most issues sought to be handled either through the JOC or on a case by case basis. The biggest problem with the structures that exist is that these are only 'activated' for short periods on an occasional basis. The Air Force Tactical Air Centres (TAC) and the Army Ground Liaison Officers (GLOs) that exist with the army and air force respectively, zealously guard their independence. It is felt that posting of air force officers to Army Corps HQ and army officers to air force wings would provide a set of officers who would understand the needs of each other much better and could then be available to 'activate' more elaborate joint structures during operations. These appointments must be viewed as critical ones with officers eligible for further promotions being assigned to them. At the level of geographical commands of the army and air force, there is a need to provide a full fledged branch in the HQ that would be manned together by officers from both the Services and which would be responsible for planning and execution of all joint issues. Such an approach would provide each Service control over all assets within its HQ, while ensuring that the other Service perspective is woven in effectively. The key requirement is to ensure that jointness happens on a continuous rather than a 'one off' basis.

Integrated Systems

Both the army and air force have been publicly laying great store by their attempts to become network-centric. This is indeed a laudable objective, even though it brings its own challenges. Leaving aside human issues (which are as complex as technical ones), a network-centric approach implies creation of systems to replace manual exchange of information. At the lowest level, it envisages a robust communications network that can carry information in the various forms

desired, at the speed desired, at the right time, to the right location. However, the existence of such a network does not automatically result in a network-centric force. Over the communications network lies the information layer that contains the data to be shared between different components of the force. The data that would be kept as shared, and the responsibility to provide the same is established through a set of accepted procedures. Therefore, integrated systems imply integration of communications networks, data systems and procedures. Modern data and communications technologies permit fine-grained sharing and integration such that the concerns of each Service towards privacy and security of data can be readily addressed without losing any functionality in the desired level of sharing. The Integrated Air Command and Control System (IACCS) being developed by the air force is one example of a system owned by one Service that would be made available to the other (Army AD). The large number of issues that can be resolved with greater willingness on the part of each Service are as follows:

- The technical methods by which the communications networks of each Service would be integrated at selected 'gateways'. This refers to the Air Force Net (AFNET) under development, the army's strategic network ASCON and the proposed Defence Communications Network (DCN). With the government clearing the building of a country-wide military network in exchange for spectrum released by the military, these issues should become fairly straightforward to resolve.
- The data systems of each Service that the other Service would have access to. These could be the generic command and control systems like the ASTROIDS and CIDSS of the army or function specific systems in the areas of degradation (ACCCS of the army), intelligence, movement, etc.
- The methods of ensuring secure communications. The present position that each Service would have its own security infrastructure is patently unviable for network-centric operations spanning components from both the Services.
- The network services like directory and messaging that would be shared between the respective Services. A shared Services infrastructure would be essential to the sharing of information systems.

Training

The issues in training that can be addressed in order to improve synergy are as follows:

Integration of Training Doctrine and Methodologies The air force, being a Service that relies heavily on equipment, needs to conserve the available equipment for actual operations. Hence, it has many limitations on the nature and extent of operational training. Prominent amongst them is the much higher safety requirements in peace as opposed to actual operations. On the other hand, the army has fewer constraints of a similar kind. Land-based operations are more complex in as much as each piece of terrain has its distinctive characteristics. As such, the extent of training that the army requires to conduct operations in the actual environment of the TBA is much higher. A general perception in the army is that the air force engages in joint training exclusively as per its own timings and requirements. The differing contexts for training need to be harmonised so that the training can be organised in such a manner that a degree of realism can be brought in for each Service.

It is quite evident that there are many areas where jointness and integration can be achieved by transcending at times the individual Service interests; the objective being to realise the common military goals.

- Detailed coordination of training schedules and programmes.
- Greater scope and frequency of operational training.

In particular, air force participation in army operations rehearsals has to be stepped up considerably in order to develop confidence in the army that the necessary support would be available during operations. The same is also necessary for the air force to understand the requirements in the TBA much better.

Conclusion

Dissonance and acrimony, particularly on force structure issues, between the land forces, primarily represented by the army, and the air forces are neither new nor surprising. The political and strategic context for each country is, however, distinct. The Indian political context is unique, with inadequacy of military exposure of political leaders, low level of consensus on strategic issues, competition for resources between socio-economic objectives and strategic objectives and the nuclear setting of conflict being some of its important characteristics. In such a

context, quantum changes in doctrine and organisations have clearly proven to be unviable. Significant changes are usually introduced through an incremental approach. Modern technology has provided us the wherewithal to share capabilities in exactly the manner that we desire. The traditional and emerging issues of dissonance between the army and air force cannot be resolved when hostilities are imminent. It is, therefore, incumbent on the military and political leadership to address the issues in detail while time is still available. The analysis and measures outlined above should provide a practical approach to this end.

Further, it is quite evident that there are many areas where jointness and integration can be achieved by transcending at times the individual Service interests; the objective being to realise the common military goals. It has been widely recognised that joint and integrated operations are a must to achieve success in the battlefield. In the subcontinental context, it would mostly be the air-land battle involving the land forces and air power though opportunities for tri-Service operations would also exist but to a limited extent. The likely nature of the future battlefield and ushering in the elements of the revolution in military affairs (RMA) into the Indian armed forces would place a premium on joint and integrated operations. In the TBA, there would be a wide variety of weapon platforms using the media of space, air as well as land. Battles would be fought on electronic fronts, along information highways and information fronts. Space-based assets would also contribute greatly to the conduct of battle at tactical levels. Synergies of diverse military assets can be best achieved by a coordinated and joint response to the elements of 'fog, friction and chance', which are ever present in the battlefield.

Notes

1. "Doctrine on Joint Operations Released by Forces", *The Indian Express*, June 17, 2010 available at http://www.indianexpress.com/news/doctrine-on-joint-ops-released-by-forces/634930/
2. Radhakrishan Rao, "Establishing an Indian Space Command", Institute of Peace and Conflict Studies, August 27, 2009, available at http://www.ipcs.org/article/india/establishing-an-indian-space-command-2958.html
3. SA Rahman, "Jointmanship-The IDS Way", available at http://ids.nic.in/art_by_offids/Jointmanship.