

Col AS Saroye Dir SI-I

**COMMUNICATION INTEROPERABILITY: AN ESSENTIAL INGREDIENT FOR  
JOINTNESS**

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1. When threatened, it is not only the armed forces which have to respond in a unified manner but it is the entire Nation, the government and all its organs, the media and the people which have to respond in an integrated fashion. Indian Armed Forces, right from their first engagement post independence, in the valley against the raiders and the Pakistan Army in 1947 – 48 have displayed a high level of innovativeness and professionalism. In a dare devil display the Indian Army took tanks to Zojila at a height of 10,000 ft. Never before in the history of warfare had tanks operated at such altitudes. Our first engagement after independence involved airlifting of troops for the defence of Srinagar. The concept of joint operations is not new to the Indian Armed Forces. We have effectively synergized our resources in a gradually increasing degree of jointmanship over the years. From purely Service specific operations to a varying degree of jointness during the three Indo Pak conflicts. Ranging from mere inter Service cooperation to operations in conjunction with each other, to a fairly high degree of jointmanship displayed in the Sri Lankan and Kargil Operations, the Indian Armed Forces have proved their mettle to rise to the occasion and emerge victorious in any situation. They have a tremendous capability to adapt to the requirements of the battlefield. Today, with the technological revolution and its impact on war fighting, joint operations are the order of the day. They constitute the key to battlefield dominance and military superiority, while at the same time, the essentials for conduct of joint operations are becoming increasingly complex.

2. As a concept, from the National perspective, Jointmanship does not mean only the Army, Navy and the Air Force, but also involves the intelligence, the foreign policy, economic and industrial support, media and so on. In fact, it encompasses all organs of the State - some directly others indirectly. In a National crisis achieving synergy of National resources is orchestrated by the Government making use of its authority over the organs of the State. At the level

of the three Services directly responsible for fighting and winning wars the requirement of a similar authority which can synergise their resources towards a common goal is indisputably recognized by each of the three Services. This in simple terms implies convergence of the three Services at the top under one supreme authority.

### **The Culture of Jointmanship in the Indian Armed Forces**

3. Jointness is a concept wherein the synergy of the three Services gives it an ability to operate seamlessly together, thereby creating a capability far in excess than the individual capabilities of single Services. It also brings about economy not only in the use of limited resources but in developing force structures and maintaining the force in being.

4. In our military operations till the Kargil conflict the concept of jointmanship emphasized on synergy at the tactical level, roughly speaking an approach which was predominantly 'bottom-up'. Our predecessors who laid the foundations of the robust infrastructure of our armed forces had the foresight to appreciate the importance of jointmanship while creating the National Defence Academy (NDA), a premier tri-service training institution and the first of its kind in the world. The camaraderie and bon-homie developed in the formative years of training of an officer is perhaps what gives our forces this unique capability to adapt to any situation or environment and yet deliver with elan.

5. As is evident from our successes in various joint operations so far such an approach was probably commensurate with the need of the hour and capitalized on the ability of our troops to adapt to the changing battlefield environment. Post Kargil, a need for convergence of the top hierarchy of the three Services was felt resulting in the creation of HQ IDS. This shift to a 'Top-Down' approach for achieving the jointness is in pace with the changes ushered due to Revolution in Military Affairs and would address the issue holistically.

## **Impact of RMA on Jointmanship**

6. A key ingredient in the successful conduct of any joint operations depends on the jointness achieved in the command, control, communications, computers, Information, surveillance and reconnaissance (C4ISR) of the three services. In the context of our armed forces achieving a fair degree of jointness till the recent past was not a very complicated issue. A communication channel between the fmn HQ of the services involved and between the fighting unit / sub unit commanders in addition to understanding each others battle drills was adequate to achieve a fair degree of jointness. However, with the acquisition of sophisticated weapon systems, development of state of art communication and computer networks in the three Services a No of issues impacting jointness have come to fore:

- (a) The domain defining reach and extent of each of the three Services, their weapon systems and therefore their areas of interest, which were till recent past largely exclusive, are now highly overlapping. This further highlights the need for jointness.
- (b) With information emerging as the fifth dimension of warfare, channels of flow of information need to be reliable, secure and robust.
- (c) Technical interoperability of command and control communications protocols, information data bases etc is an issue necessitating highly technical and financially expensive solutions.
- (d) Joint training with a view to deliver with the requisite synergy on the battlefield, has to be viewed in the backdrop of these technological advancements.

## **Interoperability**

7. Two terms commonly used to indicate the degree of synergy amongst the three Services are – joint operations and integrated operations. Integrated operations envisage the highest degree of jointness wherein the three Service components are fully integrated seamlessly to form a task force for conduct of

specialized operations. In either case the key ingredient to jointness is the ability to communicate throughout the action without disruption at critical junctures for effective command and control and transparency of the battle field.

8. For a force to be capable of executing joint operations it should have technical and operational interoperability amongst its various components. If two or more systems can exchange data, then they are considered technically interoperable. The technical interoperability (ability of systems, units, or forces to provide services to and accept services from other systems, units, or forces) addresses issues of connectivity among systems, data and file exchange, networking, and other communication related scenarios. The operational interoperability (ability of systems, units, or forces to use the services so exchanged to enable them to operate effectively together) addresses the degree to which value is derived from that technical capability.

9. Technical interoperability thus concerns connectivity and communication related issues. Network enabled systems are therefore inherently technically interoperable on the given network and would only require to acquire the operational interoperability to be capable of joint or integrated operations.

### **Communication Interoperability**


10. Unity of command at the top would require robust, reliable and survivable communications that are interoperable amongst all components of the force applied and omnipresent in the entire battlefield, from the highest command element to the last sub unit/ element on the battlefield.

11. There is no denying the fact that a robust communication network is a prerequisite for jointmanship. Towards this end the concept of Network Centric Warfare needs to be extended to all the three Services. The concept needs to be taken a step further to build the communication infrastructure of all the three services on a standard architecture providing our forces a high degree of jointness or to even undertake integrated operations.

12. The pace of development in the field of communications has been astronomical. Communications have broken all barriers and brought in the concept of global village. The three Services however still look at communications within their own respective confines. Tackling these inter Service communication network boundaries to enable a force to conduct joint operations becomes a technical interoperability challenge – expensive in terms of time, finances and quality of service. These inter service boundaries in so far as communications are concerned need to be obliterated. Perhaps it is prudent to say that we have graduated to a state where we now need an Integrated Communications Directorate under the IDS, to plan, formulate and implement communications for the three Services. This would cater to

- (a) Lay down a coherent policy for communication technologies to be adopted by the three Services.
- (b) Build communication infrastructure with standard protocols for the three Services thus enabling a higher degree of jointness.
- (c) Lay down the infrastructure of a truly networked force of the future.
- (d) Handle technical issues related to interoperability, compability and integration.
- (e) Formulate long term and perspective communication plans for the three Services.

13. With a view to enhance the jointness amongst our forces it is imperative that communications for the armed forces be looked at as one entity and given a ubiquitous character in the three Services. An integrated and a holistic approach would assure technical interoperability for joint operations.

  
G S Sanuja  
Col