

**JOINT  
APPROACH  
TO WARFARE:  
CONCEPT OF  
OPERATIONS**



# JOINT APPROACH TO WARFARE: CONCEPT OF OPERATIONS

*By*

**Air Vice Marshal D Choudhury, AVSM, VM, VSM**



## **Centre for Joint Warfare Studies**

Kashmir House, Rajaji Marg, New Delhi-110 001

**Tel. Nos:** 011-23792446, 23006535, 23006538/9, **Fax:** 011-23792444

**Websit:** <http://cenjows.gov.in>, **e-mail:** [cenjows@cenjows.gov.in](mailto:cenjows@cenjows.gov.in)

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*Ph.: +91-9811707220*

*E-mail: [xtremeofficeaids@gmail.com](mailto:xtremeofficeaids@gmail.com)*

*Website: [www.xtremeonline.in](http://www.xtremeonline.in)*

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## Introduction

In the history of warfare, states which possessed both armies and navies possibly were the first to face the challenges of coordinating the two arms of the military power, towards a common goal of defeating the enemy. In the past, rulers of states were themselves specially groomed in art of warfare from their childhood, as it was often they who led their forces to war. Thus, for states which possessed both armies and navies, it was natural for the sovereign to employ both forces in a coordinated manner through the counsel of his defence minister, his general and admiral. With the transition from monarchy to modern systems of elected governments, where the political leadership became disassociated from leading its forces into battle, the responsibility of warfare shifted to the military leadership. Thus, for landlocked states and seafaring nations their respective armies and navies reigned supreme. As technological progress added air power to the war-fighting equation, inter-service coordination became even more complex. The first serious steps towards this occurred during WWII, where the dilemma was not only inter-service coordination, but also military cooperation amongst the allied nations. Despite varying and constantly evolving models over the subsequent years amongst the leading militaries towards joint warfare, the only constant has been the challenge of command, control and turf issues.

In India's military history like almost the world over, joint warfare has largely been seen from the perspective of the surface forces, usually the Army, and in few cases from the Navy. The term itself has many interpretations and definitions. It is in essence a form of combined arms warfare on a larger, national scale, in which complementary forces from a state's army, navy, air, and special forces are meant to work together in joint operations, rather than planning and executing military operations separate from each other<sup>1</sup>. The Air Force perspective of joint warfare, in post independence India, is largely uncharted territory amongst military professionals and academia. Given the disparate standpoints, and the legacy of the lack of true jointness where the Services plan, train and execute military operations together as equals and as one, joint warfare remains a challenge. A joint approach to warfare possibly provides a more balanced and nuanced outlook to examine this complex aspect of war-fighting. This paper seeks to address two key aspects- present an Air Force perspective, and a workable way ahead within the existing structures. In order to do justice to this much touted and oft misunderstood aspect of warfare, appreciation of the seminal changes in air power capabilities and transformations in the role of Air Force, is the logical start point.

### **Air Power- Transformational Changes**

The first serious joint warfare approach in the early 80's saw the evolution of the 'Air-Land Battle'<sup>2</sup>, a concept evolved out of NATO's war fighting scenario, where ground forces dictated the tactical battle. Deep battle or strategic attack was the preserve of the Air Force and the space between – the

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1 [http://www.dtic.mil/doctrine/new\\_pubs/jp1.pdf](http://www.dtic.mil/doctrine/new_pubs/jp1.pdf)

2 <http://www.au.af.mil/au/afri/aspj/airchronicles/aureview/1984/may-jun/romjue.html>

interdiction battle spaces, became the contentious area. The Gulf war<sup>3</sup> was to bridge this gap where air power seamlessly integrated the deep battle, the intermediate space and the Tactical Battle Area (TBA). Military professionals, strategists, tacticians, thinkers and analysts' world over were to concede that the war not only set new benchmarks in the use of airpower, it also brought out certain invaluable lessons:

- Air Superiority was still the key.
- The vulnerability of strategic centres of gravity to air power.
- Parallel attacks enabled air power to produce greater targeting effects across strategic, operational and tactical realms.
- Mass and surprise was redefined by precision and stealth.

Over the years one fact emerges clearly across all the wars, that air power having constantly evolved apace with technology, was no longer an adjunct or a mere supporter of warfare, but a critical war fighting imperative. Its capabilities have evolved rapidly, thereby expanding its roles, missions and tasks. Concepts of air operations consequently have not only grown and adapted rapidly, they will continue to do so in the future.

The transformational changes which air power has undergone can be summarised as:

- Air power is not necessarily escalatory. Unlike the early wars where involvement of Air Force invariably meant 'ratcheting up' the scale of conflict in the escalatory

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3 Thunder and Lightning, Desert Storm and the Air power Debates, Edward C. Mann III, Air University Press, April 1995.

ladder, this is no longer true today. The Kargil war was a classic case where air power was used extensively in a localised conflict, in which the Indian Air force (IAF) was employed with a very strict and constricting mandate of not crossing the LOC/IB. Despite the politically imposed limited freedom of employment, it helped turn the tide by hastening the end of what otherwise would have been a protracted ground conflict. A conflict which we would have ultimately won, but with much greater losses of men and material. And equally important was the fact that the IAF operating with strict rules of engagement, produced war winning effects without giving the adversary any opportunity or space to escalate the conflict. This was possible due to its professionalism, where despite the loss of two aircraft and aircrew to man portable surface to air missiles<sup>4</sup> (SAMs) and its naturally consequent pressures for retribution, the IAF strictly adhered to the political red lines. Air power thus has the distinct advantage of creating effects with precision standoff targeting and limiting collateral damage, without crossing borders or placing boots on ground. Almost every major power today – USA, Israel, UK, France, Russia, Italy, UAE and even Jordan have since, employed its Air Forces in localised conflicts.

- It is indisputably the new opening batsman. Given the preparatory time lines needed for both the surface forces to mobilise, and the reaction time needed for them to reach and respond, which is in days if not weeks, not only gives away the ‘intent’, it also allows the adversary time to prepare. Air power on the other hand can act

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4 [https://en.wikipedia.org/wiki/Operation\\_Safed\\_Sagar](https://en.wikipedia.org/wiki/Operation_Safed_Sagar)

within hours. It is truly the first responder which acts with speed, agility, reach and response, well inside the decision cycle of the adversary. It also shapes the battlefield or the engagement zones for the surface forces.

- It provides the vital asymmetry. While total air superiority is still the ideal desired end state in the early stages of war, favourable air situation or local air superiority are equally acceptable for air power to create the vital asymmetric advantage needed by own surface forces against the enemy.
- Boots on ground are still relevant today, but large attrition of surface forces is no longer acceptable. Air power cannot capture territory, but it most certainly can reduce losses to ground forces by causing attrition of the enemy's military power before committing our own.
- Air power is no longer a mere supporting arm. From the opening rounds till conflict termination, it has amply proven the capability to actually shape the surface battle. It can prosecute a vast variety of roles, tasks and missions across the entire spectrum of warfare, both deep into enemy territory, also across large continental and maritime spaces.
- A merge of operations has taken place where air power operates in parallel across the strategic-operational-tactical realms seamlessly. It has the ability to simultaneously attack high value strategic centres of gravity of national power deep in the enemy heartland, interdict and destroy the vast array of vital counter force and counter value, infrastructure, logistics and communications, military and non-military targets in

the intermediate space, and assist the surface forces directly in the TBAs. The unique ability to 'do' all three at the same time is what truly sets air power apart from other hard power instruments of a nation.

### **Joint Approach - Divergent Paths**

The essential challenge to a joint approach in the Indian context lies in the divergent thought processes arising out of the individual Service specific approach to warfare. IAF being the youngest tends to be considered a mere support provider, primarily since the appreciation and requirements of air power application by other Services have been and remains essentially tactical. Both the Army and Navy need air power, but want it apportioned to meet their limited individual Service requirements. In recent years, they are increasingly projecting requirements of their own aircraft and air defence assets, for tasks which are the IAF's core competency and mandated as so by the Govt. While historically air defence and air support were the original reasons for formation of the IAF, that, it has grown into an independent modern force over the years with a wide range of strategic and tactical capabilities, has not been adequately appreciated. The Air Force is the only Service which fights in the air, land and sea, along with and often for, the Army and the Navy. It is also the only Service which takes part in joint operations exclusively for the benefit of the others, whereas the Army and Navy do not partake in joint operations for the benefit of the Air Force. It is only the IAF which has specific operations as a part of its war fighting repertoire exclusively for the benefit of its sister Services. Counter Surface Force Operations (CSFO) with dedicated Battlefield Air Strikes (BAS) and Battlefield Air Interdiction (BAI), are roles tailored to assist the Army. Air Interdiction (AI) and strikes deep into the enemy territory, actually shape the

battlefield for the Army by targeting the enemy's forces, logistics and infrastructure, surface movement networks like road- rail bridges, railway lines, sidings and marshalling yards, fuel and gas storage lines and plants etc. Similarly, maritime strikes are tailored to assist the Navy, by targeting enemy shipping, naval aviation, port and docks, naval facilities and infrastructure. IAF plays a major role in both Airborne Ops and Amphibious Ops as well, operations which are significantly dependent on the achievement of objectives of the air campaign. Since independence, the IAF has steadfastly contributed to joint warfare and continues to do so. Some historical facts which underscore the contribution are:

- Burma Campaign<sup>5</sup>- 16,000 sorties of Close Air Support (CAS)
- Kashmir Ops<sup>6</sup>- Srinagar & Leh airlifts. All fighter missions were exclusively for CAS
- 1965 War<sup>7</sup>- 60% of 3937 sorties were Offensive Air Support (OAS) & 35% were Air Defence (AD)
- 1971 War<sup>8</sup>- 52% of 6515 sorties were OAS & 35% were AD
- Kargil Ops - Of 1200 sorties, 550 were CSFO & 650 were Recce/AD

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5 Defence from the Skies, Jasjit Singh, KW Publishers, New Delhi, 2013

6 An Incredible War, Bharat Kumar, KW Publishers, New Delhi, 2013

7 The India-Pakistan Air War of 1965, PVS Jagan Mohan and Samir Chopra, Manohar Publishers, New Delhi, 2009

8 My Years with the IAF, Air Chief Marshal PC Lal, Lancer International, New Delhi, 1986

**Note:** OAS and CAS have since been merged into CSFO exclusively towards assisting surface forces.

These figures do not include the thousands of helicopter and transport ac sorties flown in each war, exclusively towards air assistance and logistics. Even today, majority of IAF's planned air effort during Ops is towards CSFO. While deep strikes and AI actually shapes the Army's surface operations, the IA's focus remains limited to BAS and BAI in the TBAs.

### **IAF's Concept of Operations (CONOPS)**

Understanding the Air Force's approach to war fighting would be the ideal premise towards any joint CONOPS. The Air Force's war fighting concepts are flexible and adaptable, which can be tailored from campaign to campaign, mission to mission. The national objective or goal is the obvious start point which decides the level or type of conflict. Levels or types here being- war (conventional, sub-conventional or non-conventional), limited conflict (like Kargil), limited Ops, AD Ops, HADR, MOOTW, etc. The level or type conflict further dictates the specific type of operation to be undertaken.

Once the type of operation is decided, the CONOPS formulation and the planning process begin. The 'process' is the key and is broadly governed by John Boyd's four step Observe-Orientate-Decide-Act (OODA) cycle. It is a military decision making process which is not confined or limited to only one level of conflict or war. Understanding the OODA loop gives one the ability to get inside the time/space decision making cycle of an opponent, and thus maintain the operational advantage in any conflict or war. It also helps one to develop a more operationally agile organisation, and, when

encountering an adversary, to decrease his agility through isolation<sup>9</sup>. In each type of air operation, ranging from a conventional war to a dynamic targeting or a CSFO mission, each has a distinctive iterative process specific to the Op cycle and time line. This Op planning process is vital as it compresses the sensor to shooter loop. Today, advanced net centric and enabled campaign planning and decision support tools facilitate shaping of the operation.

Next in the chain come the weapons and the combat assets necessary for the air operation. This includes the entire gamut of air power arsenal of an Air Force, ranging from all types of aircraft, air to air and air to ground weapons, force multipliers, mission enablers, ISR assets, AD systems, along with the associated maintenance and logistics wherewithal. While all these combat assets are distributed based on specific threat assessments across each Air Command's area of responsibility (AOR), in reality today these assets are increasingly employed as if they are in a cloud- where they can and are being employed from 'any base to any target' across AORs.

Targeting, truly the lynchpin of offensive employment of air power, is a science which is little understood by non-practitioners. By viewing the enemy as systems within systems, air power can target in parallel, the most critical centres of gravity within each system or ring to bring about strategic paralysis<sup>10</sup>. What you want to achieve in an operation decides what you hit-

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9 <http://www.dtic.mil/dtic/tr/fulltext/u2/a590672.pdf>

10 David S. Fadok, "John Boyd and John Warden: Air Power's Quest for Strategic Paralysis" (Research Paper, Air University, 1995), 1.

the effect desired dictates the targeting<sup>11</sup>. Having decided which are the enemy 'systems' to be engaged by Air, targeting is the next step. While targeting is an exhaustive subject by itself, in essence it follows the 'Acquire-Identify-Strike-Assess' cycle. The desired target has to be first acquired through the means of Intelligence- Surveillance- Reconnaissance (ISR). Then the target is studied in depth for its structure and vulnerabilities to identify the weapon required to engage it, through a 'Weapon to Target Matching' process. Thereafter the target imagery is analysed to identify the optimal 'Desired Mean Points of Impact' for the weapon selected to cause destruction/maximum damage/or any other effect desired. The best suited platform is then selected and armed with the specific weapons and clubbed with all necessary support requirements e.g. Laser designation pods, EW jammers and countermeasures, ISR elements, AWACS/AEWC aircraft, suppression/destruction of enemy AD elements, offensive AD and escort aircraft, aerial refuellers etc, are all packaged to comprise the 'Mission'. A mission today typically addresses a wide array of targets-ranging from the depth strategic targets for strategic effects, intermediate operational targets to shape the surface battle, right down to the immediate targets in the TBA. High value opportunity targets are addressed through 'Dynamic' and 'Time Sensitive' targeting missions.

Our entire airspace is covered by Radars whose coverage extend into the enemy's territory and all likely TBAs. All IAF radars and SAGW systems along with civil radars are integrated and networked by the Integrated Air Command and

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11 Lt Gen (ret.) David A. Deptula, "Effects Based Operations: Changes in the Nature of Warfare," ed. Aerospace Education Foundation, Arlington, 2001

Control System (IACCS)<sup>12</sup> with all air operations being NCW enabled. Let alone missions, each and every air movement, is intricately coordinated and de-conflicted to ensure safe routing through the enemy's radar gaps, provided protection by our own AD aircraft and SAGW systems, and kept safe from IA's weapon systems and firepower in the TBAs. Airspace management is therefore a vital aspect of AD integration both in peace and war. In peace, it is to ensure sanctity of our airspace while permitting its maximum exploitation by military and civil aviation. In war, it takes on an even more serious connotation. The volume of airspace over the TBA is where all our air operations, including CSFO missions, operate or transit through. It is where our AD and ISR Missions operate, it is also where the enemy air operates to support his forces and attack ours, and finally, it is the same volume of airspace where all our artillery and long range vectors transit through. It is an intensely busy volume of airspace which needs extremely high situational awareness and definite close control to ensure we are able to detect, identify and engage each and every air threat, without shooting down our own.

Finally, the entire mission flow, from planning, issue of tasking and execution orders, its launch, execution, recovery and post mission analysis, is carried out on net enabled software systems that ride on the AFNET - IAF's own dedicated and secure network. This also enables multilayered transparency wherein every air movement and mission within the entire networked airspace, whether own or the enemy, can be seen in real time at Op centres located in Air HQ, Command HQs and Base Op centres in the field. With the realisation of IAF's Operational Data Link (ODL), the aircraft cockpit would also be integrated to close the OODA loop in real time, thus enabling total net centrality of air operations.

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12 <http://www.indrastra.com/2015/09/ANALYSIS-IACCS-257.html>

## **Future Challenges: An Overview**

We live in a tough neighbourhood and share borders with two adversaries with whom we have fought five wars - four with Pakistan and one with China. In the future, Pakistan will remain the immediate threat, while China is and will remain India's major adversary and competitor in Asia. The threat library has expanded in the recent years with our collusive neighbours and their penchant for unorthodox military strategies against us. The collusive friendship already has, and will most certainly increasingly be used as leverage against us. From a security perspective, given our geography, we share over 15000 km of land border with our neighbours. Of this 3488 km is shared with China, 3323 km with Pakistan and 106 km with Afghanistan<sup>13</sup> which is subsumed in POK. Thus, a total of 6917 km of live borders ties down our land forces completely, practically cutting off land access to most of Asia. Similarly, the IN is stretched dealing with challenges from piracy in the Gulf of Aden, increased activity around Gwadar, increased PLAN surface and sub-surface presence in IOR, the Malacca straits, right up to SCS. It is evident from the security challenges, whether across land borders or the waters around it, the Indian military will have to increasingly deal with the challenges jointly. Therefore, more and more missions in the future will have a distinct joint flavour and IAF will increasingly be the glue that binds jointmanship, simply because of its strategic agility and the capabilities it brings to the table.

The Indian military is unique in many ways- one of the largest in the world, a proud martial past, despite its colonial legacy intensely Indian, totally apolitical and fiercely

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13 [http://www.mha.nic.in/hindi/sites/upload\\_files/mhahindi/files/pdf/BM\\_Intro\\_E\\_.pdf](http://www.mha.nic.in/hindi/sites/upload_files/mhahindi/files/pdf/BM_Intro_E_.pdf)

dedicated to the nation. Since independence it has fought five wars across our borders and its international involvement has only been under the UN charter. And yet in the recent years there have been a lot airing of rather one sided views of changing our military structure towards Theatre Commands under the premise of fostering joint warfare. The proponents have possibly not examined in depth the myriad challenges faced by the Western models. Of these, the military models of UK, France, etc, are too small to consider. While many have quoted PLA's restructuring of military regions as one of the justifications for a change, but China being an autocracy makes it an inappropriate model. The US is the oft cited example where the erstwhile 'theaters of responsibility' of the US military, now called Combatant Commands (COCOMS), pretty much covers the entire world geographically. Of the nine US COCOMs, three are commanded by US Army, three by USAF, two by USN and one by USMC. The Joint Chief of Staff is the first among equals and has legal no authority over COCOMs. The US COCOMs are still beset with parochial inter-services turf and command-control issues. The US government has had to keep restructuring its theater commands over the years based on their shifting goalposts of global interests and rising costs. The Goldwater-Nichols Act, frequently referred to by our military and civilian thinkers, was fundamentally brought in to enhance civilian control over the military. The Act is thirty years old and its shortcomings are under serious debate by the National Security Establishment<sup>14</sup>. Efforts are still on to try and empower the Joint Chiefs of Staff.

Arguably the widely studied joint warfare models of the world, especially those of the last two decades, actually

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14 <https://www.csis.org/analysis/goldwater-nichols-reform-way-ahead>

do not hold true for India. We are neither expansionist nor expeditionary in our national security outlook. We do not do interventions or fight coalition battles, whereas all present Western models of joint warfare are specially tailored for these. Our military is indisputably and steadfastly under civilian control. Equally important is that all wars fought since Desert Storm in 1991, have been against nil air opposition and with little or nil naval engagements. Our clear and present dangers lie across our borders with adversaries who have potent Air Forces and Navies, which will most certainly be employed to full effect against us. In the future even if we have to defend distant areas of interest, it will be a national security objective and not a mere theatre responsibility. The inevitable questions which therefore arise are:

- So, why copy a foreign model or even adapt one which cannot address the unique threat scenario we face?
- Can we afford the humungous costs to change our structure? Why not spend it on addressing much needed inventory deficiencies and up-gradations?
- In the rapidly evolving threat scenario, can we afford the long transitional phase of flux where our military capability and response will most certainly be impacted by the massive structural reorganization?
- Why try and mend something which is not really broken? During 1971 military jointness was at its best. We regressed again till Kargil happened, when we quickly got our act together. We have slipped again as we haven't fought a war since.
- Finally, what has really changed in the inventories, capabilities and most importantly in the war fighting methods of the Army and the Navy, which warrants a total change in our military organisation structure?

## **Joint CONOPS : Paths of Convergence**

What definitely is needed to overcome the dissonance created by individual Service centric views towards joint warfare is to seek a 'doable middle ground.' Should we continue chasing the Chimera of jointness, which remains and will continue to be a challenge in all major militaries despite joint structures? Adopting a 'joint approach' to warfare is possibly the way ahead, the achievable middle ground. A joint CONOPS, where each Service brings to fore the best it has to offer in terms of assets, capabilities and capacities, to provide bespoke operational solutions towards meeting the national objectives, is possibly an achievable starting point. Developing a joint CONOPS tailored to specific operational requirements can be easily achieved using the existing joint structures in our higher defence organisation. The current structure has been justifiably lamented as dysfunctional by many<sup>15</sup> and individual service proposals for more self serving structures which being one sided, do not have consensus. The issues which need to be addressed are what has made the current COSC structure ineffective, and the appointment of Chief of Defence Staff, where the real concern is leaving the responsibility of rendering sound military advice to the political leadership to a single individual<sup>16</sup>. The joint CONOPS proposed on the other hand builds on what exists, with suggestions which will empower the present structure without infringing into individual Service domains.

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15 India's Higher Defence Organisation: Implications for National Security and Jointness, Arun Prakash, Journal of Defence Studies, Vol 1, No1

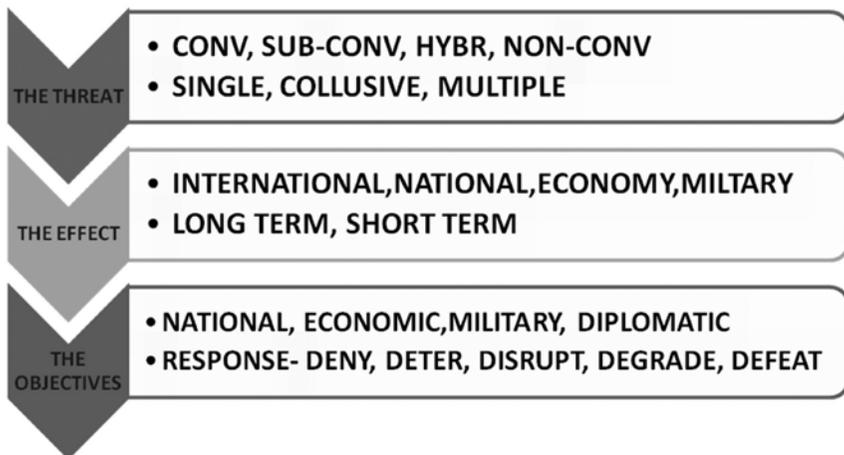
16 India's Higher Defence, Wg Cdr (Dr) R Venkataraman, KW Publishers, New Delhi, 2011

The threats that we are going to face in the future are essentially adaptations of conflict caused by the increasing blurring of lines between state and non-state conflict, and evolution of hybrid conflict in the overlap zone. We need to 'adapt' to the changes in the continuum of conflict and 'adopt' a joint approach for an integrated response, simply because each individual Service may not have the best or most effective solutions or answers. Any situation which affects our national security and warrants a military response can no longer be the preserve of an individual Service. All elements of national power must be called upon, from the very beginning, to respond to any threat. The choice of response most certainly needs to be calibrated strictly based on the best national interests, and every player needs to be brought on board to contribute to the best choice. This is the start point of a joint CONOPs.

For addressing the state conflict our conventional war fighting structures are well adapted since our adversaries have not changed. The future challenge however is the collusive threat for which we are inadequately equipped. Our inventory shortages are amply tabled but seemingly trapped in a Gordian knot of dichotomy, between the strategic vision of where we 'want to go' as a nation and the absolute necessity of addressing the security challenges in order to 'get there'. But as far as our military resolve to fight with what we have, we are on a solid wicket as long as we strengthen our mindset and will towards fighting jointly. Especially since our shortages and military wish lists are not going to get fulfilled soon, pooling of individual service strengths is the only way to address the collusive threat. Similarly, addressing the threats in non-state conflict end of the spectrum which ranges from insurgency, Anti National Elements (ANEs) and terrorism, and once the preserve of the paramilitary and the Army, will increasingly need a much greater joint approach. With the increasing

coalescing of threats, hybrid conflict is already there at our doorstep. Pakistan has targeted India using state sponsored irregulars in 1947 in Kashmir, by state owned Northern Light Infantry in Kargil and state sponsored terror groups who are considered strategic assets in later years. The joint CONOPS therefore has to deal with the entire spectrum and must flow from an analytical process at the national leadership level where the threat is identified, its effects are analysed, and objectives are defined.

### Development of National Objectives



### Developing the CONOPS

**Step One:** Define the Joint Operational Strategy (JOPSTRAT) based on the national objectives. This has to lay down the Service specific and the joint strategic war fighting objectives, desired end-states and macro Rules of Engagement (RoE). This must be done at the Service Chiefs level – a permanent Chairman COSC (first among equals) and three Service Chiefs will provide a balanced forum for this vital first step. This forum, headed and not led, in rotation by one of our own in uniform, should be the one to render professional military advice to the national leadership and therefore, should also

be the one which provides the overarching framework for all future operations, based on higher directions.

**Step Two:** Based on JOPSTRAT plan the Joint CONOPS (JOCOPS) – Lay down the campaign parameters, define the force levels, the type of operations that needs to be undertaken and spell out the joint and individual Service roles and responsibilities. This second step is best left to the Vice Chiefs level – the VCC again headed and not led, by the CISC (also as a first among equals), would be the logical next level.

**Step Three:** Prepare the Joint Operational Plans (JOPs) based on the JOCOPS. These must include the broad operational objectives based on the campaign parameters, the coincidence of operational timelines towards joint objectives and inter-service Op specific RoE. Thereafter, based on the force levels and the type of envisaged operation identified in the JOCOPS, jointly identify the ideally suited Op Commands for the operation, along with the broad Service specific special capabilities and op support requirements needed. Having worked these out, the tasking should obviously be left to each Service HQ. Each Service HQ would also cross allocate additional resources from other Commands or task additional Commands for the joint operation if necessary. Service specific Op requirements which are not linked to the joint Ops would remain an individual Service responsibility. This should be ideally executed at the DG Operations level amongst the three Services- the JOCOM which already exists in our present structure could undertake this task jointly.

**Step Four:** Finally, based on the JOPSTRAT, the JOCOPS and the JOPs, Service specific plans would be drawn up by the COS/SASOs (designated Op Commands) in consultation with their respective DG Ops, to enable inter Service Op

coincidence. Here onwards our already existing joint structures and mechanisms at Command and field levels take over.

### **Joint CONOPS & Joint Responsibilities : Closing the Loop**

There are several areas of core expertise which will have to be included to support the joint CONOPS and its execution. There are enough core specializations and expertise which reside amongst the individual Services, existing joint and the future joint organizations. Some activities and processes where joint responsibilities could be game changers are:

- Joint ISR - HQ IDS with DIA and the future Space Cmd would be well suited for this responsibility.
- Joint Centers of Gravity (COG) & Targeting Strategy - HQ IDS assisted by the JOCOM should be the logical choice given the experience garnered in evolving joint doctrines.
- Joint COG & Targeting Planning - This should be the preserve of DG Ops of the Services in consonance with the respective designated Op Cmd HQs.
- Joint Ops Flow planning - The sequence of operations, force complements, coordination and de-confliction of Op plans etc, is best left to be executed jointly between the Cmd HQs of Services.
- Joint Communications & IEW - Cmd HQs along with the future Cyber Cmd would be able to work out all the joint requirements necessary at the operational level.
- Joint Op Analysis & Review - This aspect is vital to close the OODA loop of the joint Ops. This would serve as the feedback loop for monitoring the Op progress, reallocation of resources, review of targeting and Op

tactics etc. This loop should be between the Cmd HQs and the DG Ops level.

- Joint Campaign Analysis & Review- This macro view would be to brief the COSC on the progress of the campaign, achievement of objectives, challenges etc, for updating the national leadership.

### **Certain Pre-requisites for Joint Warfare:**

The challenges to any joint approach are many and well known. The biggest challenge is the deficit of a willingness to adapt and adopt amongst the Services. While the oft quoted 'building of relationships' is important, institutionalising the structures and processes are equally so. 'Trust' remains the Sine Qua Non. Based on the US Joint war fighting experience<sup>17</sup>, five key takeaways which are applicable to the Indian context are:

- Need for recognition that you don't need to 'own' your partners' assets, in order to have assured access to their capabilities.
- There is an overarching necessity for inclusion with our stakeholders in gaining a common understanding of the environment, problem, desired overarching end states, and necessary conditions or desired outcomes to promote harmonized action.
- Inclusiveness in developing plans and during execution: The best plans and operations are those fully integrated with the other elements of national and international power – from the very beginning of planning.
- There is need for continual dialogue with national leadership in ascertaining the problem, defining

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<sup>17</sup> [http://www.au.af.mil/au/awc/awcgate/jfcom/joint\\_ops\\_insights\\_jan\\_11\\_2011.pdf](http://www.au.af.mil/au/awc/awcgate/jfcom/joint_ops_insights_jan_11_2011.pdf)

success, developing feasible policy direction, and acceptable courses of action with the necessary resources.

- Trust and confidence is very important to synergy and harmony, between the Services and with the government. Success of joint warfare will depend on how you gain and maintain trust and confidence with the higher leadership and your partners.

Sometimes it is the simplistic approach which finds success rather than the illusory ideal solution. Possibly there is no ideal solution. If there was, then US the world's most powerful military, with their enviable ability to critically analyse their deficiencies, would not be facing the challenges they still do. The answer for us therefore lies in 'doing the doable':

- Strengthen existing structures for a joint approach to warfare and make them work.
- A permanent Joint Chief of Staff on rotation who is the first among equals, with a collegiate approach rather than command, to carry the Service Chiefs along on operational matters, could possibly give teeth to the COSC. It could make it a jointly acceptable forum not only amongst the Services, but also the national leadership.
- Increase inter-services presence in Operational Commands especially in the Op planning staff. Similarly Adv HQs, HQ MAO, TACs and MEAFs which are presently the sole responsibility of the IAF, should be made truly joint with trained Op staff from the other Services working together. Strengthen the joint Orgs in the Cmds and field units by manning them with high caliber officers and incentivize the appointments. With quality manning of joint planning and supervisory

bodies, there would be more trust and belief that even if assets are not owned, they will be most certainly be made available wherever and whenever needed.

- And finally let us begin with something we have not yet done - let us carry out a truly joint exercise which is planned, executed and analysed jointly from start to finish.

## **Conclusion**

In conclusion, there are some tough questions which each Service needs to ponder over for the future. With economic growth being the nation's highest imperative, can we afford a long war? A common refrain is that tomorrow's war will be short, swift and intense. Are we truly prepared for it? How swiftly really can each Service respond individually and jointly? Shouldn't the response be one in the best interests of the Nation, which includes all the Services from the beginning? Shouldn't it be jointly planned based on the best each has to offer? Does it not make more sense for the Services to strengthen individual core competencies and adopt a joint approach for their application? Two undeniable facts are, that in any future war air power will play a vital role from the opening till the end, whether over land or sea or both, and that the war has to be fought jointly. From an air power perspective the core issue is for the national leadership, other Services and organizations to appreciate and accept that the IAF today is no longer a mere supportive force, but a potent instrument of national power with an independent identity. It is a Service with its unique core competencies, and one which brings a wide range of combat capabilities to the table to address the increased spectrum of threats of tomorrow. It also steadfastly remains a Service which has, and will continue to fight shoulder to shoulder with other Services, all the way, jointly as equals.

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