

IDSA

Issue Brief

Air Defence Command – A Bold Test Case

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Summary

Owing to the nature of operations in different domains, all three services have distinct air defence needs. Accordingly, all three services independently train and procure for their respective air defence set-ups. In this context, the challenge emerges from a single domain and therefore an integrated approach is operationally essential and setting up an Air Defence Command is functionally viable. Moreover, integration of equipment, systems, training, maintenance, and cutting out duplication will conserve resources and a singular command with clearly articulated responsibilities will enhance operational efficacy.

The year 2020 has commenced with a major change in India's Higher Defence Organisation. General Bipin Rawat, former Chief of Army Staff (COAS), has been appointed as India's first Chief of Defence Staff (CDS). As CDS, he will head the newly created Department of Military Affairs (DMA) within the Ministry of Defence (MoD). The DMA, once fully operational, will deal with all three wings of the armed forces and focus on promoting jointness in procurement, training and staffing through joint planning and integration besides restructuring of military commands through the establishment of joint/theatre commands. The CDS will also administer tri-services organisations and commands. The first CDS is mandated to bring about jointness in operation, logistics, transport, training, support services, communications, repairs and maintenance of the three Services by December 2022.¹ In the era of hybrid war, integration of all kinetic and non-kinetic tools is considered as an operational necessity.² The time-bound mandate for CDS to achieve integration is a classical move to accelerate the much-needed integration process.

The appointment of CDS follows the announcement made by the Prime Minister in his 2019 Independence Day address to the nation:

India should not have a fragmented approach. Our entire military power will have to work in unison and move forward. All the three (Services) should move simultaneously at the same pace. There should be good coordination and it should be relevant to the hope and aspirations of our people. It should be in line with the changing war and security environment with the world. After formation of this post (CDS), all the three forces will get effective leadership at the top level.³

Notwithstanding the delay of over two decades in the creation of the post of CDS, first recommended by the Kargil Review Committee in 1999, General Rawat on his first day in office as CDS, on January 1, 2020, set the ball rolling for integration with two time-bound proposals. First, proposal to create an Air Defence (AD) Command to be prepared by June 30, 2020, and second, proposal to create common logistics support pools in stations by December 31, 2020.⁴

¹ "Cabinet Approves Creation of the Post of Chief of Defence Staff in the Rank of Four Star General", Press Release, *Press Information Bureau, Government of India*, December 24, 2019 (Accessed January 09, 2020).

² For more on hybrid warfare, see Vikrant Deshpande (ed.), *Hybrid Warfare: The Changing Character of Conflict*, Pentagon Press, New Delhi, 2018.

³ *Press Information Bureau*, no.1.

⁴ "Chief of Defence Staff General Bipin Rawat Holds First Meeting with Headquarters Integrated Defence Staff Branch Heads in Push for Inter-Service Jointness", Press Release, *Press Information Bureau, Government of India*, January 02, 2020 (Accessed January 09, 2020).

This issue brief specifically looks at the proposal for setting up the AD Command. In the first section, the basics of air defence are explained. This is followed by an explanation of various integration models employed. In the last section, likely challenges in the process of establishing the AD Command are discussed.

Comprehending Aerospace Defence System

Air defence, now commonly called aerospace defence, is an activity with four subsets - Detection, Identification, Interception and Destruction (DIID). In the first step, a likely threat using the medium of aerospace is detected with the help of radars, electronic sensors and observers. The threat could be in the form of an aircraft, helicopter, unmanned aerial vehicles (UAVs), glide weapon, cruise missile or a ballistic missile. Thereafter, based on track behaviour and correlation with known flight plans, it is identified as friendly or hostile. Interception of hostile track is initiated with all kinetic tools available at that juncture.

For the outermost layer of air defence, combat aircraft equipped with air-to-air missiles are employed. In the second layer, surface-to-air guided weapons (SAGW) are employed and the inner air defence cover is provided by close-in weapon systems and anti-aircraft artillery guns. Based on the type of threat, reaction time and lethal range of the available weapons, the most suitable weapon is deployed for interception and final destruction.

In the Indian context, the responsibility of air defence rests with the Indian Air Force (IAF). Accordingly, based on threat analysis, IAF deploys combat aircraft and SAGW at critical points. However, both the Indian Army and the Indian Navy have sizeable assets for defending combat assets against an aerial attack. All Indian naval ships are equipped with one or more types of weapons systems to thwart an aerial attack. Besides, the carrier battle group (CBG) has combat aircraft to defend the assets from an aerial attack. Indian Army is equipped with mobile SAGW systems to guard combat forces on move or in tactical battle areas. To support these weapon systems, all three wings of the Indian armed forces have a number of radars, sensors and electronic warfare systems. To perform the same task of air defence, the three services have procured surveillance and weapon systems from multiple sources in India and abroad.

Same is the case with communication systems deployed in conjunction with air defence weapon systems. This has led to a major bottleneck as each system with a unique communication protocol needs to be integrated to achieve synergy within the service and thereafter with other two services. IAF to a large extent has resolved this issue with the creation of Integrated Air Command and Control System (IACCS) and

is now hand holding Indian Army's *Akash Teer*⁵ and coordinating with *Trigun* naval system.⁶ The most significant aspect of the creation of a nodal air defence command will be the generation of common communication protocols that generate a comprehensive air picture with inputs from various types of data and voice inputs.

Owing to the nature of operations in different domains, all three services have distinct air defence needs. Accordingly, all three services independently train and procure for their respective air defence set-ups. In this context, the challenge emerges from a single domain and therefore an integrated approach is operationally essential and setting up an Air Defence Command is functionally viable. Moreover, integration of equipment, systems, training, maintenance, and cutting out duplication will conserve resources and a singular command with clearly articulated responsibilities will enhance operational efficacy.

Models of Integration

The armed forces were a singular entity till the 19th century. However, over a period of time with the induction of specialised equipment, a need was felt to train and deploy certain elements differently. Across the globe, this led to separation of naval forces and later of air forces from the land forces. Gradually, these three elements drifted apart in their tasks and training but remained guided by the national military objectives. Embarking on a similar path, separate space and cyber forces are being trained and created in various countries.

Specialisation and separation of training led to certain doctrinal dichotomies and warfare on land, sea and air began developing distinctly. However, forces specialising and operating in each domain needed support from other domains as well. This led to parallel development of capabilities in the three main wings of the armed forces, resulting in suboptimal resource utilisation and often low operational efficiency. Later, to optimise resource utilisation and enhance operational efficacy, integration amongst all branches of the armed forces began to be considered essential. Attempt to create the AD Command is a step in this direction.

Disaggregation of combat forces took place differently in all countries and their reintegration is following distinct paths based on experience gained individually. There are practically three models of integration of forces.

⁵ ["BEL Delivers New Artillery Combat System to Army"](#), *Business Standard*, January 20, 2013 (Accessed January 09, 2020).

⁶ Rikeesh Sharma, ["Transformation of Indian Naval Aviation Post New Inductions"](#), *Journal of Defence Studies*, IDSA, 7 (1), January 2013, pp. 31-48 (Accessed January 09, 2020).

Geographical Integration Model: In this model, also commonly known as the theatre command concept, all combat and combat support forces located in the defined geographical region are operationally controlled by a theatre commander. This is the best model for operational applicability as resources and responsibilities are clearly articulated. In such a model, a cohesive plan utilising all available resources can be made and executed for the achievement of national military objectives. In this model, operational responsibility rests with the theatre commander. Individual services, divested of their operational role, focus on human resource, training, maintenance and procurement of equipment. Ideally, the entire area of operation should constitute a single theatre to exploit the advantages of this model as the available resources are best employed.

Should a country decide to create multiple theatres for operational or administrative reasons, then the success of this model depends on adequate resource allotment to each theatre command to achieve the assigned tasks. In case there is a crunch in certain kinetic capabilities, allocation of sufficient resources may not be possible to each theatre and this model may prove to be counterproductive. The critical kinetic capacities for distribution to various theatres could include artillery firepower, aircraft carrier, combat aircraft and aviation force multipliers. The Andaman and Nicobar Command (ANC) is one such theatre command. China has migrated to this concept in the last decade.

Resource Integration Model: In this model, a resource deployed by various wings of the armed forces is identified and all such resources irrespective of the parent service are brought under the control of one central authority. Britain's Joint Helicopter Command is one such example.⁷ The major advantage of this model is efficient equipment management, maintenance and training. However, this model has certain operational limitations in the current operational environment that necessitates quick reaction. The commander planning any operation would need to get requisite resources from a central command and this reduces the flexibility of operations and freedom for battle planners.

Functional Integration Model: In this model, all activities related to a specified function are brought under a central authority. The concept of AD Command stems from this type of integration. The North American Aerospace Defense Command (NORAD), the United States and Canada bi-national organisation for aerospace warning including the detection, validation, and warning of attack against North America by aircraft, missiles, or space vehicles, aerospace control and maritime warning for North America, is one such example.⁸ The basic advantage of this system

⁷ See "[Joint Helicopter Command](#)", The British Army (Accessed January 09, 2020).

⁸ See "[North American Aerospace Defense Command](#)" (Accessed January 09, 2020).

is that the chain of command for a particular function is clearly established and works very smoothly. However, the overall efficiency of the system depends on how each functionally integrated subset interacts with each other and how overall organisational structure plays its role. The Strategic Forces Command (SFC) exercising control over India's nuclear triad is an example of a functionally integrated command.

All integration models have certain advantages and an ideal solution will be to pick one that suits India's operational environment and resource availability. India already has an example of geographical integration (ANC) and functional integration (SFC). For further integration, CDS has selected functional integration model for the air defence domain by proposing an AD Command as a test case.

Air Defence Command Challenges

The creation of AD Command will face challenges at three levels: conceptual level, resource level, and the execution level. Conceptually, the entire air space over the Indian Territory including territorial waters will constitute the operational airspace of the AD Command. Therefore, all users, military and civil, will need to coordinate their aerial activities with the AD Command. This, perforce, will make the AD Command a tri-service entity and the responsibility will shift from IAF to AD Command. It will take some time for the blueprint of AD Command to appear. Only after that, it will be clear, like all other tri-service entities, whether CDS will command this tri-service organisation or will IAF be given its responsibility.

The second challenge is about resources. Integration of sensors, radars and communications is a technical process and will be possible in due course of time. However, bringing all these resources under a tri-service entity will be a major challenge. In case the operational control of these combat support elements is shifted to the AD Command and administrative control is retained by the parent service, it will be like travelling in two boats and the outcome is obvious. It is for this reason that the tri-service command in Andaman and Nicobar is operating below par.

The *en masse* shifting of air defence resources of the three services to the AD Command is another option, giving AD command both operational and administrative control. However, in such a case, the most potent and versatile combat elements that have multirole capabilities like combat aircraft, AWACS (Airborne Warning and Control System) and their supporters like flight refuelling aircraft (FRA) will become a vexing issue. Distribution of these multirole capable assets for specific roles will lead to their suboptimal utilisation and be contrary to

the ubiquity of aerospace power. This will also be contrary to the basic principle of effectiveness enhancement through integration.

The last major challenge will be about mission execution integration. In peacetime, existing procedures and processes currently under IAF domain can be replicated and taken over by the AD Command. However, the major issue will be about air defence responsibility of mobile elements that need to cross the national boundaries. Will mobile air defence elements for the protection of mobile combat elements be under the purview of the AD Command? If so, how will AD Command integrate its operations with the force commander of mobile elements? Will structures like Joint Air Defence Centre (JADC) be retained? If so, how will operational efficiency improve? The basic aim of all integration ought to be the enhancement of operational efficiency. In case that is compromised, the entire exercise will be futile.

Gestalt

The proposal to create an Air Defence Command, announced by CDS on his very first day in office, is a bold move. Apparently, it is based on General Rawat's experience as COAS and the events of February 2019.⁹ The forthcoming induction of very potent Russian S-400 missile system may also have been a trigger. Rather than resorting to less contentious issues to commence the integration process, the CDS has selected a very pertinent and significant operational issue. The way the proposed AD Command is structured will be crucial as it will set the tone for further integration of all three services. This test case, therefore, needs to be handled professionally at all levels for effective resource utilisation and to ensure enhanced operational efficiency.

⁹ On February 26, 2019, IAF carried out an aerial strike on terror camps in Balakot, Pakistan. The Pakistan Air Force (PAF), with mission code-named *Swift Retort*, attempted to strike Indian military establishment in Jammu and Kashmir on February 27, 2019. The PAF attack was thwarted by IAF. A PAF F16 was shot down but IAF had a combat loss of a MiG21 Bison and one Mi17 helicopter.

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