

# NATIONAL SECURITY AND AEROSPACE POWER

**ARUP RAHA**

I am happy to be a part of the 10th Subroto Mukerjee Seminar which has been organised by CAPS on a very important subject, “National Security & Aerospace Power.” I am privileged and overwhelmed to share the same platform with the finest exponents/authority and specialists on national security and aerospace power and it is a great honour to have been invited to deliver the inaugural address at the 10th Subroto Mukerjee Seminar.

The year 1954 is an important milestone year in the history of IAF. The IAF got its first Indian Air Chief in Air Marshal Subroto Mukerjee April 1, 1954. I was not even born when the legendary Air Marshal took charge but was fortunate to have been born in the memorable year, in December 1954. That is the kind of generation gap between the legend and the current crop of leaders of the IAF.

April 1, 1954 is also a memorable day as the President of India presented the Colours to our Air Force. The immediate task of re-equipping and restructuring of IAF with new aircraft and equipment fell upon Air Marshal Mukerjee. During his tenure, the IAF inducted a variety of state-of-the-art aircraft like Mystere, Hunter, Canberra and the legendary Gnat fighter/fighter-bomber aircraft. He laid great emphasis on development of human resources. It was his vision, foresight and planning which contributed immensely in launching the IAF on a trajectory of growth and enhanced

---

Air Marshal **Arup Raha** PVSM AVSM VM ADC, is Vice Chief of Air Staff and Chief of Air Staff designate. Inaugural address as delivered at 10th Subroto Mukerjee Seminar on November 12, 2013.

operational capability. We owe a lot to him for laying the foundation on which the IAF of today has been built.

A large number of issues related to national security, as well as the scope, capability and application of aerospace power, are known to us in a general sense. However, during this seminar these aspects would be brought into focus and deliberated upon by specialists with excellent domain knowledge. As serving professionals and Air Warriors, this discourse will definitely benefit us immensely.

### NATIONAL SECURITY

Till recent times there was a general perception in every section of society, including the armed forces personnel, that national security is synonymous with defence forces and is a domain of the armed forces. It meant the capabilities of Army, Navy, and Air Force to safeguard borders, frontiers, coastlines and airspace. There has been a paradigm shift in current thinking. It is no more a mere comparison of capabilities of forces in terms of size, strength, equipment, weapons, training, morale, leadership, etc., between two adversaries to determine the index of nation's security against the other.

National security is all-encompassing. It has a large canvas and spectrum with multiple factors contributing to its determination.

- **Economic Strength.** All-round development, including growth, balanced growth in service and manufacturing sectors, balance of trade and good GDP growth contribute towards the economic strength of a nation. Adequate funds for military growth would be available if the economy is strong, thus enhancing capability through acquisition of weapon systems, equipment and infrastructure.
- **Development of Human Resources.** India is the second most populous country after China. By 2025 India is likely to be the most populous country with nearly two billion people. Such a large population can be a strength to the nation provided we pay adequate attention towards the development of human resources. If the nation can provide good education, skills, employment and make them productive, a large population would be a strength. However, if the majority of the people remain uneducated,

unskilled, unemployed, undernourished and deprived, it would result in social unrest, upheaval and insurgency, in other words, a liability.

- **Technological/Scientific Development.** A good technological and scientific base, talent pool and indigenous capability through R&D is essential for a nation to be strong. No nation can be great unless it has the ability to create core/critical technologies and capacity to absorb them. For progress and indigenous development, it is imperative to have the requisite proficiency in the field of metallurgy, engines, machine tools, electronics, avionics, electronic warfare and information technology.
- **Adequacy/Access to Natural Resources.** Power generation, availability of water, oil, mineral resources and cultivable land for growing crops to feed the people are an absolute necessity for the survival and progress of a nation. Future conflicts will be over the control of critical resources like water and oil.
- **Cyber Security—New Dimension.** In a recent article in the *Economist*, a net-centric nation's vulnerabilities in a cyber world were highlighted in great depth. All activities of a nation, like management of financial activities, power grid, nuclear power stations, railways, air traffic control and communications network are dependent on internet, Information and Communication Technologies (ICT), and Information Technology Enabled Services (ITES). Vulnerabilities in such networks need to be addressed, as trained hackers can disable/cripple these systems with disastrous results, bringing a nation to its knees without even firing a bullet. A proposal to set up a Tri-Service Cyber Command has been recommended to the Government to take care of the cyber domain of the armed forces.
- **Capabilities of Defence Forces.** Defence forces of a nation must have the capability to provide the desired strategic footprint which would include space-based capabilities. To enhance such strategic capability it has been proposed to the Government to set up a Tri-Service Space Command.
- **Good Governance.** It leads to peace and harmony and rapid economic growth and development, thus contributing perhaps the maximum to national security.

- All these factors add up to provide Comprehensive National Security (CNS) which is synonymous with CNP.

### **STRATEGIC FRONTIERS**

National Interests drive a nation's strategy. Considering our economic and energy needs, it is imperative that we expand our influence beyond our immediate neighbourhood. Our strategic presence or footprint should provide us the capability to influence the environment from the Suez to Malacca/Shanghai. It is imperative that the nation builds capabilities/assets that provide reach and the desired effect at these ranges. The Armed Forces Long Term Perspective Plan—2012-27, that is, XII, XIII and XIV plan Periods cater to these needs to a large extent.

### **SUB-CONVENTIONAL THREAT**

Tackling the sub-conventional threat is an immediate challenge to our national security and events like 9/11, 26/11 and the 13/12 attack on Parliament brings out the emerging war waging trends, and the importance of tackling sub-conventional threats cannot be overemphasised. Recent attacks on Mehran Naval base and Minhas Air Base in Pakistan, US bases in Afghanistan indicate the vulnerability of high-value assets and type of warfare that may unfold in future.

### **FUTURE ROLE OF AEROSPACE POWER IN NATIONAL SECURITY**

I firmly believe that the future will witness the continued pre-eminence of aerospace power as the primary instrument of choice for almost all operational contingencies. The IAF's long-term plans cater for this strategic transformation to meet the future challenges to nations' security. Army/land forces have determined the military power of a nation from time immemorial. Navies of seafaring nations capitalised on the inherent advantages of maritime power and built empires, especially across seas/oceans, in faraway continents. Aerospace power is only a century old and air force is the youngest arm of the defence forces that provides immense relief/freedom from the surface friction inherent in army/naval operations.

After the industrial revolution, there has been a rapid development in technology across the world especially in the field of aviation. The twentieth century belonged to air power and truly the twenty-first century belongs to aerospace power.

The history of nations reveals that states became great powers by demonstrating mastery over the creation, deployment and the use of military strength to achieve national objectives. The military power of a nation is one of the most important components of Comprehensive National Power (CNP) amongst many other indices. Therefore, if a nation wants to play an important role in the international arena, it has to invest adequately in strengthening its military power. However, it is aerospace power, in particular, which is best suited to offering prompt response options in times of national security crises.

Aerospace power has the ability to simultaneously interface as well as influence land/sea operations. The success of army or naval operations is uniquely dependent on the use of the 3rd dimension, that is, the protective shield of aerospace power, as well as the offensive capability of air power. The relevance of aerospace power has increased manifold, it is like the ultimate weapon, the *Brahmastra* of ancient mythological India. It is because of this paramount importance of aerospace power that nations have treated their air forces as their best form of defence and invested heavily to provide the “core competency” in the exploitation of aerospace power in achieving national security objectives.

There are examples of nations which defaulted in paying due importance to aerospace power/air force and paid a price in terms of an inability to project military power and deter adversaries. Such air forces always played a secondary role under an army-dominated dispensation in state power and were, thus, never consulted in the planning and conduct of operations during a conflict and treated as an adjunct to the army. The inability to comprehend the importance of aerospace power and dedicate adequate budgetary allocation to the growth of the air force by such nations has led to obsolescence of these air forces. It is only now that such nations have realised their folly and are concentrating on rapid

advancement of their air force inventories through modernisation and a fair share of the budget.

### **AEROSPACE POWER: INSTRUMENT OF CHOICE**

The composition of the armed forces and its desired capability should be determined by the threat perception and its mitigation, as well as the national objectives and aspirations. Therefore, the size of army, number of strike corps; the strength of the navy in terms of blue-water capability with aircraft carriers, nuclear submarines, etc., and the offensive striking power and force multipliers of the air force have to be related to these factors. And, of course, the finite resources available in terms of budgeting would entail prioritisation of the competing needs of the three services.

India has no territorial ambitions, and the armed forces objective in pursuing national interests would be to build the required capabilities for conflict avoidance through deterrence. Deterrence is best achieved through “offensive capability,” or the ability to operate and strike in depth, create such vulnerabilities. The next conflict is likely to be short, swift and intense. The key, therefore, is to have a national instrument which not only provides the best defence but also provides the best deterrence. Aerospace power, with its unique attributes, fits the bill, in the face of a national security challenge.

### **IAF’S STRATEGIC TRANSFORMATIONAL PLAN**

**Budgeting.** Budget would play a very crucial role in the execution of a strategic transformational plan. Budgetary constraints have a cascading effect on upgradation plans. Sharing budget allocation on pro rata basis is not the best solution to meet the capability that the nation needs. As an element of national power, aerospace power in many circumstances offers choices to the national leadership to influence behaviours and events even during long periods of comparative peace. Therefore, notwithstanding the capital-intensive nature of maintaining an air force, a nation has to ensure its continuous growth through adequate budgetary allocation. This is a fundamental requirement.

In the absence of a well established indigenous aerospace industry, Indian Air Force is forced to source a major share of its inventory from foreign vendors, albeit with licence production at Hindustan Aeronautics Limited (HAL)/defence public sector undertakings (DPSUs). Delays in fulfilling all the contractual obligations, both in terms of quality and timelines, have to be avoided. Slippages result in cost overruns, which we can ill-afford with tight budgeting. Life Cycle Costing (LCC) Model is being adopted by the Ministry of Defence for all high-value acquisitions, as against Direct Cost of Acquisition (DCA) model, thus providing the best value for money spent.

**Indigenisation.** Lack of adequate indigenous capability is a setback for the growth of our aviation industry. Despite initial impetus after independence in setting up a military industrial complex to enhance the military aviation sector, we are well short of the objectives. Core technology in aero-engines, metallurgy, machine tools, testers, avionics and EW needs to be developed by us. Non-participation of private sector despite its competitiveness and global performance has had a negative influence on indigenisation efforts in the defence sector.

**Opportunity.** Most of the aerospace industry thrives in the developed world and their economy is dependent on them. However, due to peace and stability in Europe and the developed world, as well as stagnant/shrinking economic growth in the developed countries, the demand for military hardware has been shrinking and downsizing of defence forces has taken place. Due to instability/conflicts in Asia there has been an exponential growth in demand for military aviation hardware in the developing world. Similarly, rapid economic growth has increased the demand for civil aviation assets, especially in Asia. Our industries need to capitalise on these dynamics to build indigenous capability. In fact, the Defence Procurement Policy-2013 (DPP-13) encourages participation by private industry and the offset clause in major acquisitions provides for transfer of technology (ToT) and indigenous efforts through joint ventures and public private partnership, etc. This is a step in the right direction and we need to avail this golden opportunity to lay the foundation of an indigenous aerospace industry.

## CONCLUSION

In the future we are unlikely to have an operational contingency that will not demand control of air. Our situational awareness, intelligence (ISR) and precision strike ability would be enhanced by use of aerospace assets. Increased strategic footprint will be provided by aerospace power through space-based assets, air mobility with heavy lift and tactical transport fleets and use of AWACS, FRA, AEW&C. Enhancement of communications network would boost our network-centric warfare capability.

Core competency in exploitation of aerospace power, especially offensive strike capability would provide the best deterrence against any aggressive designs of our adversaries and ensure peace and tranquillity. Aerospace power will remain the prime instrument of our military power.

Capability building is a continuous and a long-term endeavour. It will require visionary planning, commitment of national resources and a synergetic approach by all stakeholders. The civil authorities, military establishments, defence production agencies, R&D organisations and academia need to work together to maintain the trajectory in transformation of India into a strategic aerospace power.

IAF is respected the world over as a professional force. We are determined to provide the nation a strategic aerospace force. We are exclusive by our profession and capability but totally inclusive in serving the nation. *Op Rahat*, the gigantic humanitarian and disaster relief operations in Uttarakhand in June-July 2013, is an appropriate example of this commitment to our people.