

# INDIAN AIR FORCE IN THE DECADES AHEAD

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Air Marshal Subroto Mukerjee enjoys an iconic status in the country, as most pioneers do. For the air force, however, he is much more than that, because most of what we are today is founded upon his vision and leadership. He is also held in high esteem for his personal attention to the welfare of those placed in his charge. His untimely demise, 47 years ago on November 8, was a great loss to the nation. We remember him today, when the Indian Air Force (IAF) has completed its 75th year and India its 60th. Appropriately, the subject for discussion is “IAF in the Decades Ahead.”

Armed forces and air forces are instruments of national power and do reflect, though sometimes with a delay, national policies, interests, threat perceptions and responses; also the country's level of technology and economic status. Formed in 1932 in British India, the IAF was meagrely equipped and performed counter-insurgency roles in tribal areas. This role expanded in World War II, as the Japanese threat loomed large, but it remained essentially a tactical and ‘counter surface-force’. Strategic air power, though necessary at that stage also, was the domain of the Royal Air Force (RAF). The colonial masters may not have wanted us to have a more potent capability. Post-independence acquisitions mainly followed technological advances, no doubt, goaded and moulded by the Pakistani and Chinese threats. Gradually, we acquired the necessary capabilities to execute the envisaged roles. Costs and insularity were a constraint in the past.

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\* Inaugural address by the Chief of the Air Staff, **Air Chief Marshal F.H. Major**, PVSM, AVSM, SC, VM, ADC, at the 4th Subroto Mukerjee Seminar organised by CAPS at India Habitat Centre, New Delhi, November 17, 2007.

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Today, India is economically sound and our interests spread way beyond national boundaries. You can see that reflected in the IAF, which now has a 'trans-continental capability', is a strategic force and is gradually progressing towards 'air dominance'. India's international dealings have increased manifold and defence cooperation has followed in step.

The future shape of the IAF depends on a lot of factors, which include global and regional geo-political-cum-security scenarios, the likely nature of future wars, our threat perceptions and the role of aerospace power in meeting these challenges. The future also depends on our ability to overcome challenges that lie ahead. Therefore, we have to crystal-gaze in an orderly manner and I can see that the sequence of talks in the seminar covers these aspects.

**THE GEO-POLITICAL ENVIRONMENT**

There are greater interdependencies in today's world, where growth and well-being are not possible beyond a point, without international cooperation. The phrase 'cooperation and competition' best describes the global power-play. Economic and technological preeminence indicate national power, more than military power; which is why there are many new actors on the stage. In fact, the world is characterised by changing power equations. There are new friends and opportunities, and new adversaries too. All of this throws up military challenges and those that anticipate and act in time will have the advantage.

Asia is the new engine of global growth and centre of power. Booming economies have spurred rapid development and military capabilities. The region is also one of conflicts and instabilities, as peoples attempt to determine their destinies. South Asia mirrors all the concerns of the continent and India is situated in perhaps this most turbulent part of Asia. But even as our territorial disputes linger, we have newer responsibilities for a greater role. We will require political will, flexibility, speed of decision-making and more national power.

## NEW THREATS AND NATURE OF WARFARE

The spectrum of threats is also much wider, with an increase in asymmetric warfare and low-intensity conflict at one end and nuclear threat at the other. Terrorism has evolved and is both decentralised and more sophisticated. The whole spectrum continues to acquire greater technological sophistication. Combating non-traditional threats needs military assistance and keeping peace is an important commitment of the armed forces. Trade and energy security considerations add to our security concerns, necessitating a change in our strategic outlook and also accentuating the role of aerospace power.

It is said, that in the last 3,500 years, there have been only 270 years of peace—mankind has fought 14,500 wars. There is a lesson here. The nature of wars has changed with the capability of weapons, which enable more focussed objectives. Strategies have evolved from attrition to manoeuvre, to parallel and effects-based operations. The objectives have changed from annihilation to persuasion. The next war may not conform to patterns of even the more recent conflicts and we may not be able to accurately predict the reason, scope, level and geographical extent of any future conflict, which might be conventional or nuclear; short duration or not; one front or more. Air power has made a significant difference to war-waging strategies and military objectives; consequently, to the very nature of warfare. But only more recently, thanks to technology, has it really begun to deliver on its theoretical promises.

Wars will invariably be influenced by international equations and battle-spaces will be transparent to the public. Legalities, therefore, cannot be ignored. Demands on the military in future will be far more challenging, requiring responses that are swift, flexible, calibrated and varied.

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#### **NEED FOR AEROSPACE POWER**

Aerospace power fits the bill just so perfectly and has assumed an ever-expanding role in national security. Unlike maritime power, whose applicability is determined by geographic location, and armies, whose size and composition are determined by relations with neighbours, size of the country and internal security compulsions, aerospace

power has a more universal applicability. It has a huge impact on the everyday lives of people; as also on international relations and economic activity. It is, therefore, the 'preferred tool' for all conveniences and contingencies. It empowers the future.

Premised on 'cutting-edge' technology, its reliability and effectiveness hinge upon it. It is astonishingly reliable, effective, clean and responsive. It enables effects-based and parallel operations and can create strategic effects. Not all air forces have such capabilities, but the IAF, already among the leading air forces of the world, can, with the appropriate infusion of technology and training.

#### **IAF VISION-2020**

India needs its air force to be able to deter or punish, to protect or project national interests and execute its hugely increased peace-time roles. We, therefore, need comprehensive capabilities. The IAF is poised on the threshold of a transformational modernisation. But if we look at the way the IAF must evolve in the next two decades and compare it to any other evolving air force, there are essential similarities. Since aerospace power is premised on technology, which in turn is driven by operational needs, all air forces tend to envision a similar future. In fact, but for minor variations, we are on a globally recognised aerospace path. Depending upon the circumstances, threat perceptions and resources, it is only the scope and pace of growth that remain to be determined. Vision is a description of desired end-state, though the 'current emphasis' sometimes appropriates the status of 'vision'. However, the required shape of

the IAF in the next 20 years is easily apparent, needing no visionary to surmise, or any slogan to encapsulate it.

I would venture to state that the IAF must be equipped for long-reach, persistence, all-weather, precision, networked and space-enabled force capabilities. It must be of appropriate size and ultimately deliver on its promise of deter, punish, protect, project, or peace-assist, where, when and to the extent necessary. This implies hardware, organisation and people. The hardware must be well-chosen and procured in time; the organisation adaptive and well-interfaced; the people competent, motivated and well-trained. Our broad vision or mission statement, therefore, would be: “Requisite Capability, achieved Well in Time; with the Right People, who are Well Trained and Organised; for Assured Performance’. However, I am more interested in actioning this “Action Plan”.

#### **CHALLENGES-2020**

Hardware, organisation and people make up the edifice of aerospace power. In a changing environment, these very elements also throw up challenges. Since I used the phrase Vision-2020, I must also dwell on “Challenges-2020”. Hardware is at the core of an air force. Accessing the necessary technology is, therefore, the primary challenge. We do have a

‘technology gap’ and that can curtail national options. We must identify and pursue core-technologies with the maximum potential. We must also develop core-competencies in important industrial and engineering disciplines. It is also imperative to identify emerging technologies and develop them to secure a lead in niche areas. The indigenous aerospace industry needs a boost, through a collaborative and participative approach, which must include R&D, the industry, private enterprise and the IAF.

Quite evidently, aerospace power requires very highly-skilled and impeccably trained personnel. Is there enough of the ‘right stuff’ to choose from and would they be willing to take up the challenge? Keeping the force updated on skills is an

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associated challenge, for it often requires a reorientation of mindsets, entrenched beliefs and ways of working. We feel that the solution lies in continued international exposure and encouraging 'thinking air warriors'.

As the hardware changes, new capacities and capabilities are generated, which sometimes radically alter the way we do business. And we can't do it differently with old processes and organisational structures.

An adaptive organisation is, therefore, another important objective for us.

#### **AEROSPACE POWER AND IAF-2050**

All that I have referred to so far is easy to surmise, for it is part of the working day for many of us—pegged as it is to 2020 or 2025. Our perspective plans reach out to that period and things are fairly concrete. Beyond the medium multi-role combat aircraft (MMRCA) and fifth generation fighter aircraft (FGFA), with their 40-year 'lives', we are looking at 2060. It is not easy to guess the shape of aerospace power in 2050 and beyond. Would the accent shift to unmanned flight, to missiles; or would 'air' be more of 'space'. Technology advances have in the past revolutionised military affairs and it is bound to happen again. The global environment will almost certainly metamorphose, altering equations and threat perceptions dramatically. Moreover, leading nations will have a greater say in the direction of technology development. The second-tier nations usually end up following the trail-blazers. What should be our long-term objectives? Ladies and gentlemen, these issues defy simplistic answers.

However, despite the uncertainties, the need for 'application and transportability' of national power and, thus, for aerospace power, in some shape, would remain. Nations that lack it, will seek it, as will non-state agencies. Aerospace power, both civil and military, is bound to proliferate and leading nations will endeavour to stay ahead. Technologically, aerospace power will seek to enhance its fundamentals in order to extend its reach, persistence, accuracy,

lethality, all-weather and lift capabilities; as well as situational awareness, survivability, command and control.

There will be a greater need for specialisation and for having an appropriate tool or capability for each occasion. One can foresee an increased dependence on unmanned aerial vehicles (UAVs) and unmanned combat aerial vehicles (UCAVs). There is bound to be greater accent on force-multipliers and force-enhancers. Of these, the intangible force-multipliers, such as the quality of people, their morale, their training and, of course, the organisational structures will assume critical importance. Aerospace power will find increasing applications in homeland security and in tackling asymmetric forces with faint footprints.

There is also bound to be greater networking and assimilation of space, perhaps even weaponisation of space. Networks extend reach and influence and energise command, control and communications (C3I). Space also endows global reach, surveillance and reconnaissance. Networks and space are interdependent—they are the glue that binds air operations, making them aerospace operations. Indeed, and irrefutably, the accepted logical progression for any modern air force the world over is to evolve into an aerospace force.

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Another area of focus in the years ahead would be on inter-disciplinary synergy, among the armed forces, with civil aviation and with other organs of national power. While the limelight is stolen by weapon systems, unless due importance is given to airfield and maintenance support infrastructure, we could never realise our true potential. We must also support indigenous R&D and industry, towards our common quest for technology and self-reliance. The doctrines would naturally evolve to keep pace with the changes.

It is risky business to predict international relations, but they do have a major impact on military force-structures. The global nature of many threats encourages international cooperation. Smaller nations have little choice but to

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subscribe to a larger security umbrella. Developing aerospace power is also impossible without international cooperation. I dare say the future will see enhanced international defence cooperation in differing shapes.

### **CONCLUSION**

In the end, I would state that building and nurturing aerospace power, on account of its costs, technology and implications cannot but be a national endeavour, requiring the commitment of the government, civil society, industry, scientific community and, of course, the air force. We cannot succeed on our own. But we must be able to provide the nation with the options it needs. The choices we make will determine India's power and the shape of its aerospace capabilities. It is indeed an exciting phase. We do have reason to be satisfied; but the journey is long and requires dedication, motivation, team work, a common goal, a good dose of patriotism and patience.