

India's Fifth

Generation Fighter

Air Marshal M Matheswaran on The Need for Hard and Pragmatic Decisions



fighter was the HF-24 Marut, which was designed in the late 1950s and early 1960s. Prime Minister Nehru displayed visionary approach to bring in the legendary German aircraft designer, Dr Kurt Tank, to head the design effort for India. He not only brought his core team, but with their assistance created an exceptional design capability for HAL in a short span

the SOP (Standard of Preparation) of the aircraft is still not frozen due to incomplete development process.

Successful fighter aircraft programmes in various countries flow from efficient programme management. This includes strong interface between the user, industry, and the development agencies. Fundamentally, the programme management needs to be done by the

India's effectiveness as a major power and a rising great power depends greatly on its ability to project deterrence and influence from its military power. Modern military capability is critically dependent on the nation's aerospace capability, which is demonstrated through the nation's ability to design, develop and manufacture its own fighter aircraft, with most of its ingredients within the country. While India has achieved significant technological progress in various fields, its military continues to be heavily dependent on imports, most of all at the cutting edge fighter aircraft technologies.

The highlight of the 2017 Republic Day fly-past was the flight by three LCAs, our fourth generation fighter aircraft, the culmination of more than three decades of work. Yet, much of the LCA continues to be import dependent. In the context of a renewed effort at indigenisation through 'Make in India', it is time for us to review our past programmes and make appropriate corrections in order to achieve our fighter aircraft capability as a reality. This is even more compelling from a security perspective, when we see the rapid progress made by China in this area, in particular with their Fifth generation aircraft progressing towards operational reality.

While India has produced many fighter aircraft under licence in the last 60 years, there have been just two indigenous fighters that have been designed, developed, and produced within the country. The first



HAL HF-24 Marut



ADA Tejas LCA

of time. It is another matter that the country squandered that wealth of capability and experience created. The HF-24 was an exceptionally advanced design for its time. Dr Kurt Tank's leadership and programme management was outstanding. At a time when technical wherewithal in India was extremely limited, he ensured that the programme was managed very efficiently. The first flight of the prototype took just four years from the drawing board, and the series production commenced in less than 10 years. Contrast this with 16 years for the first flight of the LCA, and more than three decades for establishing its series production, albeit incomplete as

user as it is important to synergise the conflicting pulls of costs, impractical development aspirations, and most importantly operational necessities of the user. It is very important to achieve the right balance with the cost of the programme, technology development time frames, operational urgencies, and technological continuities with previous programmes in the context of experience and research data base. Success of these principles are clearly evident in the China's programmes of JF-17 (a programme that commenced with LCA, but has already clocked more than 5000 hours of operational flying with more than