The Big Picture – Need to Modernise Indian Air Force

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Amid escalating tension between India and Pakistan over the abrogation of the special status of Jammu and Kashmir, Air Chief Marshal BS Dhanoa has said that the Indian Air Force (IAF) is still flying 44-year-old MiG-21 Russian fighter jets. MiG-21s have been the most accident-prone of all IAF fighter jets, thus earning the name **"flying coffin"**. From 1963-2015, the MiG-21 had a total of 210 accidents. Of these, a maximum of 16 accidents took place in 1999. India is currently the largest operator of MiG-21 Bison, with an estimated 100+ aircraft on duty.

Speaking at an IAF seminar in New Delhi, Dhanoa said that the basic version of the Russian fighter jet would be phased out in 2019. He also said that the IAF is replacing high-end obsolete weapons with indigenously developed ones that will boost in-house defence

manufacturing, however, to win a war, the country also needs high-end, high-tech items, which need to be imported.

Factors Deciding Modernisation

- Modernisation need for the IAF is derivative of the **threat perception** as well as the kind of wars the country will fight.
- Modernisation is not only limited to fighter aircraft. There is a need to think whether **Force Multipliers like air to air refuelers, communication networks etc. also to be upgraded**.
- The **offensive operations capability of the warfare equipment** also need to be looked upon.
- Other things that need to be considered include **country's war policy turning into two-front war policy** (considering neighbours Pakistan and China), network centric warfare, aerospace i.e. the IAF including space assets into its war domain.
- The **induction rate** and the **retirement rate** is another factor. In the IAF, induction rate of fighter jets is much slower than their retirement rate.
- It needs to be considered **what kind of aircraft country need** i.e. whether all of rafale type, or some lightweight etc.

Note:

- The term **"network-centric warfare"** broadly describes the combination of emerging tactics, techniques, and procedures that a fully or even partially networked force can employ to create a decisive warfighting advantage.
- NCW essentially focuses on using computers, high speed data links, and networking software to link military personnel, platforms, and formations in the battlespace, into highly integrated local and global networks.

Progress So Far

- The IAF has implemented **Integrated Materials Management Online System (IMMOLS)**.
- As far as the net centricity is concerned, the IAF has **Integrated Air Command and Control System (IACCS)**, which integrates all ground and air sensors.
- The IAF is taking care of Force Multipliers like **Flight Refuelling Aircraft (FRA), Airborne Warning and Control System (AWACS)** etc.
- On the missile front, India has got a strategic missile segment in which the country is doing well: **Agni 1- V and the Prithvi,** for the layered defense, it has got **Long Range Surface to Air Missiles (LR-SAM), Medium Range Surface to Air Missiles (MR-SAMs),** etc. India also has **BrahMos**, a missile which has been indigenously manufactured.

- India has added **heavy lift helicopters like Chinook** and **attack helicopters like Apache**.
- The IAF now also has a **dedicated satellite** for its operations.
- On the infrastructure front, the IAF had a project called **Modernisation of AirField Infrastructure (MAFI)**. 30 of the airfields have been upgraded into all weather 24X7 flying capabilities.
- Other initiatives include **Indian (Designed, Developed and Manufactured)- IDDM**, strategic partnership policy in **Defence Procurement Procedure (DPP)**, etc.

Challenges

- The immediate short term worry is **shortage of fighter jets** in the coming future.
- India has a perspective plan in its place, i.e. the IAF is aware of calendar life of its aircraft but **has not been able to execute it yet**.
- India has an **additional challenge of talent** which is needed to manufacture high tech aircraft.
- India does not have a 'technology development roadmap for an aircraft' i.e. there is **no plan to upgrade the technology in existing aircraft timely**.
- Challenges **in 'Industry or Manufacturing Aspect'** include:
    - Access To Technology and Talent
    - Large Capital Expenditure (Capex) and the long gestation period required for return on investment.
    - Enabling Ecosystem
- The greatest challenge for the country is **to have indigenous inventory**.

    Financial burden: India is not able to bear the cost of indigenisation. For instance, Su-30 is more than 1.8 times costlier than Su-30 which can be bought directly from Russia.
- As of now, the IAF has to follow a **lengthy process for procuring an equipment,** which takes about 4-5 years.

Hindustan Aeronautics Limited (HAL) and the Private Industry

- HAL is one of the biggest companies that India has. However, it does not have enough manufacturing orders today.

    For instance, HAL Kanpur has a large manufacturing base. It has all the requirements that any aerospace industry needs, manufacturing set up, proper infrastructure etc. but no manufacturing orders.

- The **government needs to have a collaborative approach** where the private industry is allowed to take available facilities, on lease.
    - HAL trusts private industry as it outsourced some products of LCA Tejas to private companies and received the same timely.
    - The Ministry of Defence has also given permission to the private industry for usage of its facility whether in ordnance factories, or in public sector units.
- The government can let HAL tie up with the foreign vendor or a foreign manufacturers.

Way Forward

- There is a **need to form a National Aeronautic Commission** so that the industry, armed forces, and the government can sit together to discuss related issues.
- **Private companies** are doing well as thus the government needs to encourage them.
- **The modernisation needs to be coupled with indigenous capability.** India cannot be a superpower without having the indigenous capability to manufacture and service its own fleet.
- To cut the procurement time, the IAF should be allowed to choose what fits best for it and then the government should go for government to government deals. Also, procurement should be done timely.

Modernisation has indeed taken place and there are several aspects that have been addressed in the recent past as well. However, India still needs to do more.