Centre for Air Power Studies (CAPS)

Forum for National Security Studies (FNSS)

11TH SUBROTO MUKHERJEE SEMINAR RAPPORTEUR'S REPORT

"THE CHALLENGE OF AIR POWER"

November 11-12, 2014

Day 1: November 11, 2014

SESSION II: AIR POWER AS A TECHNOLOGY DRIVER

Chairman: Air Marshal Vinod Patney SYSM PVSM AVSM VrC (Retd) (Director General, CAPS)

Air Marshal Vinod Patney began by emphasizing on the need to match up with the changing international scenarios with equal changes and up-gradation of technology, if the Air Force is to be a truly effective arm of the State ensuring survivability of national interests.

AIR POWER: NEXT GENERATION AND BEYOND: Col. Brad Mc Coy (Retd) (Strategic Studies Group, Lockheed Martin Ltd).

The following were the salient points discussed by the speaker: -

- Air Power establishes the foundation for force application inside the 'Battle space', and allows ground and naval forces the freedom to manoeuvre.
- Recent wars/military activity in Afghanistan, Kosovo, Bosnia, Serbia, and Libya highlight the Centrality of Air Power owing to its ability to deliver asymmetrical advantage and low collateral damage.
- Air Power is more than just aircraft. It's a symbiotic relation between airmen to airmen relationships, aircraft, weapons & sensors, tactics and training with sustainability at its core.

- The sixth generation aircraft would aim to work upon self-healing structures and systems, ubiquitous situation awareness, high Mach speed and multi-spectral stealth.
- The next generation of Remotely Piloted Aircraft (RPA) will aim for higher reliability and lower attrition by increasing capability to cover entire threat spectrum, reducing manpower, optimizing bandwidth and greater integration into civil airspace.
- The speaker observed that Airborne Laser (ABL) is likely to become operational in the next five years, which would revolutionise air to air combat.

EXPLOITATION OF SPACE: THE KEY TO SUCCESS: Wg. Cdr K.K. Nair (Research Fellow, CAPS)

The following were the salient points discussed by the speaker: -

- Space is a critical lynchpin for military efficacy. It needs to be employed for defence not in isolation but in conjunction with air power.
- India's most critical and emergent need is specific awareness of satellites in Low Earth Orbit (LEO). Most IMINT satellites are in LEO.
- Unlike other countries, a major drawback India faces is that India has no military representative on its space agency.
- India must use an evolutionary, rather than revolutionary approach to capacity building & resource utilisation. Focus must be on harnessing dual-use applications and exploring the commercial market.
- There should be a cross-training with user involvement from initial stage.

FUTURE MANNED AIRCRAFT: Mr. Christophe De Pauw (Dassault-Aviation)

The following were the salient points discussed by the speaker: -

- Air Force needs to maintain capability to respond to a wide variety of mission requirements.
- Air Power requires a symbiotic relation between industry and military forces wherein industry's technological developments are able to understand and anticipate operational tasks and changing environment and translate the new requirements into cutting edge technologies.
- New technologies need to have full scope capacities to face challenging scenarios in a dynamic environment.
- There is a need for unmanned/ manned vehicles collaboration, greater flight safety, optimising pilot workload, ensuring smart connectivity, integrating weapons and stealth capabilities.
- Stealth technologies need to balance between tactical and strategic requirements

ENHANCING OPERATIONAL CAPABILITIES: Gp Capt Sudhir Varma (Retd) (Vice President, Saab India Technologies Pvt. Ltd)

The following were the salient points discussed by the speaker: -

- In future fighter jets, there will be an emphasis on applying new but mature technology while ensuring proper balance of key characteristics, including Life Cycle Cost.
- They will have to adapt to new roles, face new threats, incorporate new technology, carry new weapons, and handle obsolescence cost efficiently and timely.
- Future development of fighter aircraft will be shaped by operational drivers, budget and technology changes.
- While being stealthy, Situation Awareness will expand to include extensive sensor suite, sensor data fusion & sharing of resources through network and advanced cueing.

- Future Combat Air Systems (FCAS) can be derivative of existing aircraft or new design, include one or more air systems and be either manned and/or unmanned.
- Universities, Research Establishments and Suppliers are essential sources for opportunities.

Q&A AND CONCLUSION

It was concluded that while technology is definitely reducing the pilot's workload and giving him better information to make quality decisions, yet the human element remains significant in critical situations. Inevitably, the human element formed the theme of the next session.

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