



# IAS PARLIAMENT

*Information is Empowering*  
A Shankar IAS Academy Initiative

## Significance of Unmanned aerial vehicles

### What is the issue?

\n\n

\n

- US Navy has decided to replace its Aircrafts gradually with UAVs.

\n

- There is a strong demand for India over the UAV venture.

\n

\n\n

### What are the significance of UAVs?

\n\n

\n

- Unmanned Aerial Vehicles are the best for search and strike missions with low calibre high accuracy guided weapons.

\n

- Controlled from a ground station, the UAV either flies a pre-planned path or can be dynamically controlled.

\n

- UAV's has high endurance, which allows a high success rate for search and strike missions.

\n

- The roles of UAVs are gradually increasing in the civil sector, ranging from the delivery of packages to the shooting of high-quality aerial films.

\n

\n\n

### What are the short comings with UAVs in replacing MAVs?

\n\n

\n

- **Sensors** - Present sensors do not have the capacity to replicate the

appreciation by a human eye and pose a limitation in operations.

\n

- **Dynamic Situation Processing** - Decision-making autonomy is required, It cannot be explicitly expressed mathematically, a human is essential.

\n

- **Communication** - Their inability is to capture high fidelity data, based on directions from the ground station, receive, decrypt and process it to execute a command.

\n

- **Speed and Manoeuvrability** - They are low speed and consequent low manoeuvrability as compared to manned fighter aircraft and this makes them vulnerable.

\n

- **Weapon Carrying Capacity** - UAVs are capable of carrying low calibre/low weight weapons in limited numbers as compared to manned aircraft.

\n

- **Safety** - UAV accident rates are four to five times higher than that of manned aircraft.

\n

- **Endurance** - Autonomous inflight refuelling could keep the UAV in the air for days.

\n

- **Risk** - The control of UAV is heavily dependent on electromagnetic waves, which are susceptible to interference/jamming/technical malfunctions.

\n

\n\n

## What is Indian UAV Scenario?

\n\n

\n

- By 2050, at least 50 per cent of combat missions would be designated to UAVs and that would require a large fleet of various types of UAVs.

\n

- While Israel and USA are leaders in UAV technology and operations, the Indian UAV programme is in its infancy.

\n

- Going by the example of the Light Combat Aircraft (LCA), the production of an Indian combat mission capable UAV is at least a couple of decades away.

\n

- To meet that challenge, it would be prudent to establish a joint venture for

the production of UAVs in India under the Strategic Partnership programme.

\n

\n\n

\n\n

**Source: IDSA**

\n



**IAS PARLIAMENT**

*Information is Empowering*

A Shankar IAS Academy Initiative