



MANPADS

Why in News?

The United States and [North Atlantic Treaty Organization \(NATO\)](#) are shipping weapons into [Ukraine](#), including highly sensitive items such as shoulder-fired missiles called **Man-Portable Air-Defence Systems (MANPADS)** that can take down aircraft.

- Countries such as **India, Pakistan, Germany, UK, Turkey and Israel** have also used MANPADS in their defence efforts.
- **Russia is by far the biggest exporter of MANPADS**, having sold over 10,000 such systems between 2010 and 2018 to various countries including Iraq, Qatar, Kazakhstan, Venezuela, and Libya.



What are MANPADS?

- **About:**
 - MANPADS are **short-range, lightweight and portable surface-to-air missiles** that can be fired by individuals or small groups to destroy aircraft or helicopters.
 - They help **shield troops from aerial attacks** and are most effective in targeting low-flying aircrafts.
 - **MANPATs or Man-Portable Anti-Tank Systems** work in a similar manner but are used to destroy or incapacitate military tanks.
 - MANPADS have a **maximum range of 8 kilometers and can engage targets at altitudes of 4.5 km.**
 - The **first MANPADS were introduced by the United States and Soviet Union** in the 1960s.
- **Features:**
 - **Shoulder-Fired, Light Weight:**

- They can be **shoulder-fired, launched from atop a ground-vehicle, fired from a tripod or stand**, and from a helicopter or boat.
- They are **fairly lightweight as compared to other elaborate weapon systems**, making them easy to operate by individual soldiers.
 - They weigh anywhere between 10 to 20 kilograms and are not longer than 1.8 meters.
- **Fire and Forget Guidance Systems:**
 - Most of them have passive or 'fire and forget' guidance systems, meaning that the operator is not required to guide the missile to its target, enabling them to run and relocate immediately after firing.
- **Infrared (IR) Seekers:**
 - The missiles are fitted with infrared (IR) seekers **that identify and target the airborne vehicle through heat radiation** being emitted by the latter.
- **Common Variants:**
 - Stinger Missiles (US), Igla MANPADS (Russia), Starstreak (Britain), RBS-70 MANPADS Series (Sweden), Next Generation Light Antitank Weapon or NLAW missiles and Javelin missiles (US and NATO).
- **Concerns:**
 - **Civilian Attacks:**
 - According to a 2019 study, **more than 60 civilian aircraft have been hit by MANPADS since the 1970s**, claiming the lives of more than 1,000 civilians.
 - **Illicit Use by Non-State Actors:**
 - Over time, non-state actors such as rebel and terrorist groups are known to have illicitly acquired MANPADS, using them during civil wars and other high-intensity conflicts.
 - **Illegal Weapon Trade:**
 - Observers fear that sending lightweight ground-based MANPADS to Ukraine may contribute to intensifying the network of illegal weapon trade.

PYQ

What is "Terminal High Altitude Area Defense (THAAD)", sometimes seen in the news? (2018)

- (a) An Israeli radar system
- (b) India's indigenous anti-missile programme
- (c) An American anti-missile system
- (d) A defence collaboration between Japan and South Korea.

Ans: (c)

Source: TH