Anti-Tank Guided Missiles

Why in news?

The indigenously developed laser-guided version of the Anti-Tank Guided Missile (ATGM) was successfully test fired by the DRDO.

What are the ATGMs?

- ATGMs are missile systems that can strike and neutralise armoured vehicles such as tanks.
- They can pierce the armours of tanks and the material that can withstand such ammo.

When did ATGMs first come into use?

- The development of such kind of ammunition has been an ongoing race since World War I.
- But it wasn't until the World War II that armies across the world began to use the ATGMs.
- Indian Army mainly uses various imported ATGMs.
- But, the Defence Research and Development Organisation (DRDO) has been working on ATGMs that can be launched from different platforms as part of the Integrated Guided Missile Development Programme.

What were the previously tested ATGMs?

- In 2018, ATGM **Nag** was successfully tested in desert conditions.
- In 2019, the indigenously developed low weight, fire and forget **Man Portable ATGM** (MPATGM) was successfully tested.
- All these systems are in their various stages of development.
- They are mainly used by infantry units of the Army.
- In 2019, the government said that it has procured **Anti-Tank Spike Missiles** from Israel to meet the requirements of the Indian Army.

How are laser-guided ATGMs different?

- The laser-guided ATGM was successfully tested twice recently for a target placed at different ranges.
- They mainly differ in one aspect from other ATGMs developed till date.

- This ATGM (which is yet to receive an operational name) is designed to be fired from tanks.
- With its range limited to 1.5 to 5 kms, it locks and tracks the targets with the help of laser designation to precisely strike the target.
- The missile uses a 'tandem' High Explosive Anti Tank (HEAT) warhead.
- The term tandem refers to the missiles using more than one detonation in order to effectively penetrate the protective armours.
- This missile has the capacity of piercing armoured vehicles which use specially designed armour plates to counter the impact of projectiles.

Where was this ATGM developed?

- This Laser Guided ATGM has been developed by two facilities of the DRDO's Armament and Combat Engineering Cluster in association with Instruments Research & Development Establishment.
- [Two facilities of the Armament and Combat Engineering Cluster are
    1. Armament Research and Development Establishment (ARDE) and
    2. High Energy Materials Research Laboratory (HEMRL)]
- This missile is currently undergoing tests to be integrated with India's Main Battle Tank (MBT), Arjun.
- DRDO scientists said more tests for hitting targets at different ranges and for testing other flight parameters are planned in coming days.
- After these series of validation tests, the system will be ready for the user trial by the Army.
- These tests were conducted from MBT Arjun at the field ranges of the Armoured Corps Centre and School (ACC&S) of the Indian Army.

What is its importance in armoured warfare?

- The role of armoured vehicles has remained decisive even in modern day warfare because of their ability to **go past conventional defenses**.
- Tank battles are generally fought in a close range of under five kms.
- The objective is to hit the enemy tank before they can take a clear shot.
- Development of missile systems that can defeat tanks built using modern armour **act as a deterrent** against enemy tanks from advancing.
- DRDO scientists say the operability of the missile from a tank is a key feature in armoured warfare.
- The missile has the capability of engaging with the target even if it is not in the line of sight, thus further enhancing its capability.

Source: The Indian Express

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