K Missile Family

Why in news?

A successful trial of the Shaurya missile was conducted by India.

What is Shaurya missile?

- The nuclear capable Shaurya missile is a land-based parallel of the submarine launched K-15 missile.
- These ballistic weapons belong to the K missile family.
- They are named after late Dr APJ Abdul Kalam, the centre figure in India's missile and space programmes.
- They are launched from Arihant class of nuclear submarines.

What does this test reveal?

- Shaurya was examined for several advanced parameters compared to its earlier tests, according to sources.
- Shaurya is a canister-based system, which means that it is stored and operated from specially designed compartments.
- In the canister, the inside environment is controlled, thus it will
    1. Make its transport and storage easier,
    2. Improve the shelf life of weapons.
- These recent tests of these systems can be looked at as a strong message to China and Pakistan in light of the present situation in the region.

What are the K Family of missiles?

- The K family of missiles are primarily Submarine Launched Ballistic Missiles (SLBMs).
- They have been indigenously developed by the Defence Research and Development Organisation (DRDO).
- The development of these naval platform launched missiles began in the late 1990s as a step towards completing India's nuclear triad.
- [Nuclear Triad - The capability of launching nuclear weapons from land, sea and air based assets.]
- Because these missiles are to be launched from submarines, they are lighter, smaller and stealthier than their land-based counterparts.
- Their land-based counterparts are the Agni series of missiles which are

medium and intercontinental range nuclear capable ballistic missiles.

What are the variants?

- Land and air variants of the K family have been developed by the DRDO.
- Shaurya is a land variant of short range SLBM K-15 Sagarika, which has a range of at least 750 kilometers.
- India has also developed and successfully tested multiple times the K-4 missiles from the family which has a range of 3500 km.
- It is reported that more members of K-family with ranges of 5000 and 6000 km are also under development.

What is the strategic importance of SLBMs?

- The capability of being able to launch nuclear weapons submarine platforms has strategic importance in achieving the nuclear triad.
- The sea-based underwater nuclear capable assets increases the second strike capability of a country and thus boosts its nuclear deterrence.
- These submarines can survive a first strike by the adversary.
- Also, it can launch a strike in retaliation thus achieving Credible Nuclear Deterrence.
- The 2016 commissioned nuclear powered Arihant submarine and its class members are capable of launching missiles with nuclear warheads.
- The development of these capabilities is important in light of India's relations with China and Pakistan.

What were the other recent tests?

- In January 2020, DRDO conducted two successful tests of the K-4 missile from submerged platforms off the coast of Andhra Pradesh.
- These tests were a key step towards ultimately deploying K-4 on INS Arihant, which already has K-15 onboard.
- There has not been any official communication from DRDO about the recent tests which is possibly because of,
    1. Classified nature of K family missile projects and
    2. Their close link to the Advanced Technology Vehicle (ATV) project of which Arihant class vessels are part of.

Source: The Indian Express

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