

General Studies-3; Topic – Internal security.

India's Nuclear Triad

1) Introduction

- Nuclear Triad means the capability of delivering nuclear weapons by aircraft, land based ballistic missiles and submarine launched missiles.
- India declared that its nuclear triad is operational after indigenous Ship Submersible Ballistic Nuclear (SSBN) INS Arihant achieved a milestone by conducting its first deterrence patrol.
- India has put in place a robust nuclear command and control structure, effective safety assurance architecture and strict political control, under its Nuclear Command Authority.

2) Significance

- INS Arihant, which is equipped with nuclear-tipped ballistic missiles completed a nearly month-long nuclear deterrence patrol.
- INS Arihant will enable India to assert its rights on water, besides land and air.
- It now joins a small group of countries — United States, Russia, China, France and United Kingdom — that have this capability.
- Arihant's successful nuclear deterrence patrol signifies India's attainment of complete mastery over all the highly complex systems and procedures.
- India's nuclear deterrence 20 years after the country went nuclear is now secure as it rests on a triad of land, air and undersea vectors.
- The success of INS Arihant enhances India's security needs.
- Given India's 'No-First-Use' (NFU) in launching nuclear weapons, the SSBN is the most dependable platform for a second-strike.
- SSBNs are designed to prowl the deep ocean waters and carry nuclear weapons.
- Because they are powered by nuclear reactors, these submarines can stay underwater indefinitely without the adversary detecting it.
- The other two platforms — land-based and air-launched are far easier to detect.

3) Landmark Development

- It demonstrates that India, apart from its capability to deliver nuclear weapons both from land and from air, can now also do so from under water.
- It provides the ultimate credibility to nuclear deterrence.
- It sends out an unambiguous message that nuclear blackmail will not work.
- The nuclear deterrence patrol signifies India having come off age as a mature nuclear-armed state.
- This exercise is testimony to India's technological prowess.
- It shows a high degree of engineering skill and workmanship with substantial indigenous component.

4) INS Arihant

- The Arihant is the lead ship of India's Arihant class of nuclear-powered ballistic missile submarines.
- These will form a potent and formidable weapons system which will ensure national security.
- Arihant is India's first indigenously designed and built nuclear-powered submarine.
- Arihant is armed with K-15 Sagarika missiles with a range of 750 km.
- It will carry the longer 3,500 km range K-4 missiles being developed by the Defence Research and Development Organisation (DRDO).

- This is the longest in the Navy's fleet of submarines.
- The second submarine in the series, Arighat is now undergoing sea trials after which it will be inducted into service.
- INS Arihant was launched in 2009 by then Prime Minister Manmohan Singh.
- Since then, it had undergone extensive sea trials.

5) India's Approach Towards Nuclear Weapons

- Arihant's nuclear deterrence patrol does not constitute any shift in India's approach towards nuclear weapons.
- India remains committed to "the goal of a nuclear weapon free world, through global, verifiable and non-discriminatory nuclear disarmament".
- India follows no first use of nuclear weapons, and non-use of nuclear weapons against non-nuclear weapon states.
- In the absence of a nuclear-free world, India continues to regard nuclear weapons as a deterrent designed to prevent a nuclear attack against it.
- Accordingly, as per its doctrine, India has sought to ensure that its deterrent is "credible".

6) Nuclear Submarine Club

- US has 72 nuclear submarines, Russia over 40, UK and France have around 8-12 each.
- China has around 10 nuclear subs, including 5 advanced JIN-class SSBNs with 7400 Kms range JL-2 missiles.

7) Way Forward

- Augmenting naval strategic capabilities is an imperative for India, especially considering the strategic importance of the Indian Ocean region.
- It is imperative that the government revisit manpower costs, particularly pensions and benefits, if it is to increase funding for defence research and development.
- Experts believe a real sea-based deterrence requires at least three atomic-powered submarines.
- India now needs to focus ahead and move fast, if it is to fully secure and advance its cherished strategic autonomy.