Prelim Bits 09-01-2018
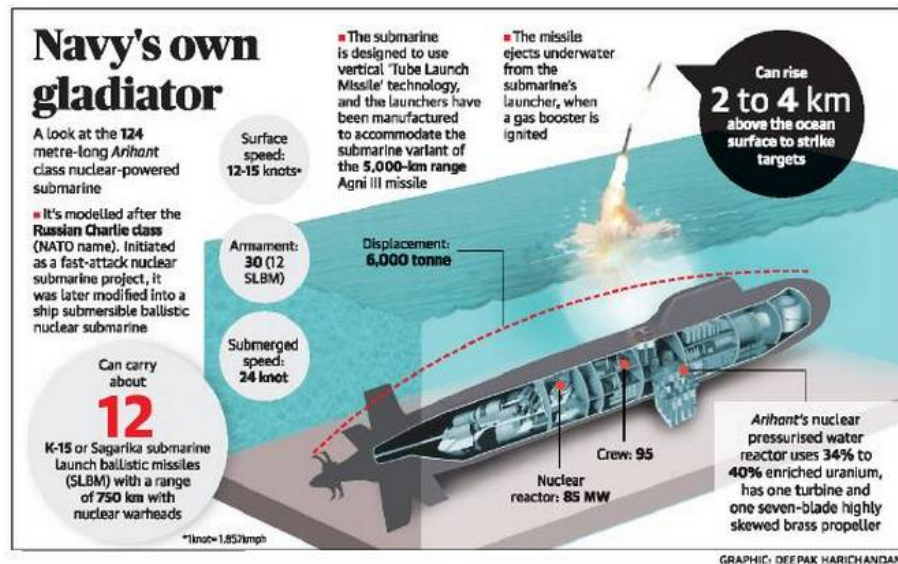
INS Arihant

- INS Arihant is India's only operational ship submersible ballistic nuclear (SSBN) asset.
- It is its most dependable platform for a second-strike.
- This is because the other options, land-based and air-launched, are easier to detect.
- Arihant has been immobilised after 'accident' 10 months ago
- It can stay undetected deep underwater for long periods and ranges far and wide.
- INS Arihant and other nuclear launch platforms are operationally handled by the Strategic Forces Command.
- They report to the Nuclear Command Authority chaired by the Prime Minister.
- However, over 100 nuclear warheads are not mated with missiles or bombs and remain in civilian custody of the Atomic Energy Department and the DRDO.

Navy's own gladiator

A look at the **124** metre-long *Arihant* class nuclear-powered submarine

■ It's modelled after the **Russian Charlie class** (NATO name). Initiated as a fast-attack nuclear submarine project, it was later modified into a ship submersible ballistic nuclear submarine

Can carry about **12** K-15 or Sagarika submarine launch ballistic missiles (SLBM) with a range of 750 km with nuclear warheads

Surface speed: 12-15 knots*

Armament: 30 (12 SLBM)

Submerged speed: 24 knot

*1knot=1.852kmph

■ The submarine is designed to use vertical 'Tube Launch Missile' technology, and the launchers have been manufactured to accommodate the submarine variant of the 5,000-km range Agni III missile

Displacement: 6,000 tonne

■ The missile ejects underwater from the submarine's launcher, when a gas booster is ignited

Can rise **2 to 4 km** above the ocean surface to strike targets

Crew: 95

Nuclear reactor: 85 MW

Arihant's nuclear pressurised water reactor uses 34% to 40% enriched uranium, has one turbine and one seven-blade highly skewed brass propeller

GRAPHIC: DEEPAK HARICHANDAN

Nuclear Command Authority (NCA)

- It is responsible for command, control and operational decisions regarding India's nuclear weapons programme.
- Organisational structure of NCA includes Political Council and Executive Council.
- Executive Council is headed by National Security Advisor and Political Council is headed by Prime Minister.
- The Executive Council gives its opinion to the Political Council, which authorises a nuclear attack when deemed necessary.
- This kind of organisational structure is created to prevent the accidental or unauthorised use of nuclear weapons.
- Strategic Forces Command is a part of Nuclear Command Authority, responsible to operationalize the directives of NCA and for the management and administration of the country's tactical and strategic nuclear weapons stockpile.
- SFC is headed by Commander-in-chief of the rank of Air Marshal.
- It will have the sole responsibility of initiating the process of delivering nuclear weapons and warheads, after acquiring explicit approval from the NCA.

Mankidia Tribe

- Mankidia is one of the 13 Particularly Vulnerable Tribal Groups (PVTG) in Odisha.
- They critically depends on making rope with siali fibre that's richly available in Similipal Tiger Reserve (STR).
- They were denied habitat rights inside the STR under Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006.
- So they would now be deprived of the non-timber forest produce.
- This is because the State Forest Department has objected on grounds that tribals could be attacked by wild animals.
- Had it been approved, the Mankidia would have been the first PVTG to have habitat rights.
- In Odisha, processes have been initiated for according habitat rights to PVTGs such as Bondas, Didai, Hill Khadia and Paudi Bhuyan.
- "'Habitat' as defined under the FRA includes the area comprising the customary habitat and such other habitats in reserved forests and protected forests of primitive tribal groups and pre-agricultural communities and other forest dwelling STs.

Pratyush

- Pratyush is an array of computers recently unveiled in India.
- It can deliver a peak power of 6.8 petaflops.
- One petaflop is a million billion floating point operations per second and is a reflection of the computing capacity of a system.

- The machines will be installed at two government institutes: 4.0 petaflops HPC facility at Indian Institute of Tropical Meteorology (IITM), Pune & 2.8 petaflops facility at the National Centre for Medium Range Weather Forecast, Noida.
- Pratyush is also the fourth fastest supercomputer in the world dedicated for weather and climate research.
- A key function of the machine's computing power would be monsoon forecasting using a dynamical model.
- With the new system, it would be possible to map regions in India at a resolution of 3 km and the globe at 12 km.

Web portal to accept online abuse cases

- The Ministry of Home Affairs is set to launch a web portal where people who have faced online abuse can register complaints on a real-time basis.
- It includes victims of cybercrimes like financial frauds.
- The Centre also plans to give access rights to banks on the portal to address cases of fraudulent transactions online.
- According to India's Computer Emergency Response Team (CERT-In), there was a 21% increase per year in incidents of cybercrime.
- The portal has also been readied on the directives of a committee appointed by the Supreme Court to check circulation of child pornography and sexual violence videos on the Internet.

Source: PIB, The Hindu