

## Militarisation Of Space [UPSC Notes for GS II]

### Militarisation Of Space

Space militarisation involves placing and developing weapons and military technology in outer space. The initial space exploration in the mid-20th century had, partly, a military motive, as the US and the USSR used it as an opportunity to demonstrate missile technology and other technologies having military application potential.

Outer space has since then been utilised as an operating location for military spacecraft like imaging and communications satellites, and some ballistic missiles passing through outer space during their flight.

During the Cold War, the two superpowers namely, the USSR and the USA spent huge proportions of their Gross Domestic Product on developing military technologies. As the Cold War came to an end with the implosion of the USSR, the space race between the 2 superpowers also subsided. The USA was left as the only superpower on the planet with a big concentration of the globe's wealth and technological advancement.

Despite the United States' new status in the world, the monopoly of space militarisation can in no way taken for granted. Nations like Japan, China and India have begun their own space programmes, while the EU (European Union) collectively works to create satellite systems to rival those of the US.

#### **The emergence of counter-space: A new frontier?**

- The new measure of space hegemony lurks in counter-space now, and not so much in planetary excursions and outings by astronauts.
- This is why Russia, the U.S., and China have been relentlessly chasing for decades programmes that allow them to rule space militarily, for defence or offence purposes.

#### **Counter-space capabilities and Space espionage:**

- As per academic reports, policymakers and those tracking the military space, for many years now, the space between 600 km and 36,000 km above our planet has been the playground for such clandestine activities.
- When Mission Shakti happened, the Center for Strategic and International Studies based in Washington, D.C. and the Secure World Foundation came out with reports detailing counter-space capabilities that various nations possess today and their sense of threat to space assets.
- Satellites with robotic arms or handles have nudged or touched other satellites in orbit. Mother (or nesting) spacecraft have gone up to 'deliver' baby spy satellites in orbit. Satellites have sneaked up to high perches to observe, overhear and sense all that is happening in space and on the ground.
- The intent of being in counter-space is hence, espionage and surveillance.
- During war times, the intent could be to capture or disable a rival's space assets in orbit.
- However, in this century, countries have allegedly created deadly armouries that can be either unleashed into or from space.
- The intent could be to inspect and assess the target's nature, eavesdrop on it, or even subvert its functions. The fear is that in extreme cases, the target may even be 'abducted' or taken control of.

#### **Other issues like Space junk:**

- Since the Sputnik was launched in 1957, more than 8,000 satellites/man-made orbiting objects have been launched, of which about 5,000 remain in orbit; more than half are non-functional.

- Currently, over fifty nations own or operate the nearly two-thousand functional satellites in orbit.
- Of these 2,000 satellites, more than three hundred are dedicated military satellites.
- Once again, the U.S. has the biggest share here, with nearly 140, followed by Russia with nearly 90 and China with nearly 40.
- India has two dedicated satellites, one each for the Indian Navy and the Indian Air Force.
- Indian defence forces also employ the civilian government owned satellites widely for communications, location accuracy, remote sensing and meteorology.
- Growing amounts of space debris poses a real risk to satellites and spacecraft.
- There are more than 20,000 objects of debris which are the size of golf balls and those of smaller sizes number hundreds of thousands, totalling close to 6,000 tonnes.

### **The Risk of a Space Pearl Harbour:**

- Satellites of each of the countries such as Russia, the U.S., and China have been caught loitering in orbit at different times, and the victims have cried foul.
- U.S. policymakers Jim Cooper says, “Every nation’s satellites face increasing threats... The risk of a space Pearl Harbour is growing every day.”
- He warns that today countries depend so much on their satellites that “cripple our satellites and you cripple us”.
- Possibility of space debris and defunct satellites crashing with satellites.

### **Is India getting into an arms race in outer space?**

- Recently, India carried out an anti-satellite (ASAT) test using an interceptor missile (as a kinetic kill vehicle) to neutralise a target satellite (possibly the Microsat-R launched in January this year) in a Low Earth Orbit (LEO) at an altitude of around 300 km.
- Many countries raised concerns over ASAT.
- India has no intention of getting into an arms race in outer space. India has always held that space must be utilised for peaceful purposes only.
- India does not support the weaponization of Outer Space and actively supports international efforts to reinforce the safety and security of space based assets.
- India maintains that Outer space is the shared heritage of mankind and it is the responsibility of all space-faring countries to safeguard and foster the benefits flowing from developments made in space technology and its applications for all. India is a party to all the major international treaties connected with Outer Space.
- India already implements many Transparency and Confidence Building Measures (TCBMs) – including registering space objects with the UN register, pre-launch notifications, measures in harmony with the UN Space Mitigation Guidelines, participation in Inter Agency Space Debris Coordination (IADC) activities with regard to space debris management, undertaking SOPA (Space Object Proximity Awareness and COLA (Collision Avoidance).
- Analysis and numerous international cooperation activities, including hosting the UN affiliated Centre for Space and Science Technology Education in Asia and Pacific.
- India has been taking part in all sessions of the UN Committee on the Peaceful Uses of Outer Space.
- India supported UNGA resolution 69/32 on No First Placement of Weapons in Outer Space.
- India’s sees the No First Placement of weapons in outer space as only an interim step and not a substitute for concluding substantive legal measures to ensure the prevention of an arms race in outer space, which should continue to be a priority for the international community.
- India supports the substantive consideration of the issue of Prevention of an Arms Race in Outer Space (PAROS) in the Conference on Disarmament where it has been on the agenda since 1982.
- Countries are also honing non-kinetic, electronics and cyber-based methods to prevent satellites of other countries from spying on their regions.
- It is important to note that cyber-attacks can destroy, steal or distort other satellites or ground

Taking into account the extreme fragility and volatility of the outer space environment, it must not be permitted to turn into another battlefield or a scene for military conflicts that could have disastrous implications.

Outer space is a common heritage and asset owned equally by every human being. So, there is a clear need for a legally binding instrument to prevent an arms race and fill existing legal gaps. Such an instrument should have an all-inclusive scope that includes 4 prohibitions: the placement of any weapons, defensive or offensive; armed attacks against satellites or any outer space assets; intentional, harmful interference that interrupts the normal functioning of such assets; and developing, testing and stockpiling weapons designed to attack outer space assets.

