Private Participation in Space Sector

What is the issue?

- Elon Musk's SpaceX has become the first private company to launch human beings into orbit. Click here to know more
- In this context, here is a look on the role of private participation in the space sector.

How did private participation evolve in the U.S.?

- NASA used to have a fleet of five spaceships under its Space Shuttle programme.
- These were used to make a total of 135 of journeys into space and the International Space Station (ISS), in the 30 years from 1981 to 2011.
- Two of these were destroyed in accidents, the Challenger in 1986 and Columbia in 2003.
- Each resulted in the death of seven astronauts.
- In the 2003 accident, India-born astronaut Kalpana Chawla was among those killed.
- After that, the US government had decided to close the Space Shuttle programme.
- The three remaining spaceships, Discovery, Atlantis, and Endeavour, were formally retired in July 2011.
- But they were fit for many more flights.
- It was decided that it probably no longer made sense for NASA to build and operate these spaceships.
- It was not just costly, but was also consuming a lot of scientific resources.
- The transportation needs could easily be fulfilled by space vehicles that some private companies were promising to make.
- Accordingly, it was decided to help and support these companies in building these spaceships.
- These can be hired by other agencies as well and even private individuals.
- The NASA collaboration with SpaceX and Boeing was a result of this.
- In the meanwhile, NASA utilised Russian spaceships to travel to the ISS, for which it paid tens of millions of dollars for every trip.
- Russia also uses the ISS facility, and routinely sends its astronauts to the space station on its own spaceships.

- For NASA, private companies' role is expected to be a cheaper option.
- It also offers the comfort of operating from home soil and eliminates dependence on a foreign country.

How has private participation so far been?

- World over, more and more work of space agencies is already being done in collaboration with private companies.
- There are literally hundreds of private entities building commercial satellites for their clients.
- However, launch services remain a somewhat restricted zone, considering that it requires elaborate facilities and deep pockets.
- But here too, there are several players apart from SpaceX and Boeing.
- Many, like Virgin Galatic of businessperson Richard Branson, have already made space flights.
- It might soon start offering passenger rides to space to those who can afford to pay.
- In fact, in 2019, a spacecraft built by Scaled Composites, a US company, even took a human being for a very short ride into space, becoming the first private spacecraft to do so.

What is the case with India?

- Most of the private companies operating in the space sector in India collaborate with the ISRO.
- They contribute in building and fabricating the components that go into making rockets and satellites.
- There are several companies that have started making satellites for their own use, or for their clients.
- However, launch services, including the building of rockets or launch vehicles, is still some distance away in India right now.
- ISRO has been collaborating more and more with private industry.
- However, the capability to independently carry out even routine space missions, like that by SpaceX/Boeing/Virgin Galactic, has been missing in India.

What are the future prospects?

- SpaceX's flight underlines the fact that space research and exploration is now a much more collaborative enterprise than before.
- Space agencies of different countries are sharing data and resources.
- More importantly, they are increasingly getting together to carry out joint missions as well.

- The ISS itself is a good example of international cooperation in the space sector.
- The space facility (ISS) is set to retire somewhere around 2028.
- ISS's replacement being planned is likely to have participation from at least 10 countries, and possibly private players as well.
- There is also a growing realisation that space agencies need to direct their energies and resources more towards scientific research and deep space exploration.
- It’s been 50 years since the landing on moon, and efforts to take human beings to Mars and other celestial bodies, needs to be expedited.
- Getting back to the Moon, which NASA and some other agencies plan to do in the next few years, is just the first step in that direction.
- But that would also require huge amounts of financial resources that most of the space agencies, including NASA, are currently starved of.
- Private players are expected to infuse fresh investments as well as technological innovation in this area.

Source: Indian Express

SHANKAR IAS PARLIAMENT
Information is Empowering