

Artemis Accord

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Manifest Pedagogy:

The NASA Artemis Accords place a high priority on the positive effects that space exploration can have on the entire world. Members of the Artemis Accords were announced by NASA and the American State Department in 2020. The international pact formed by NASA and the Artemis Accords nations to carry out the goal of peaceful space exploration. However there are concerns with the accord which need to be resolved through dialogue and trust building efforts by the US and NASA.

In News: The French space agency, CNES, signed the Artemis Accords with its US counterpart, NASA, becoming the twentieth nation since the Accords came to prominence in 2020.

Placing it in the Syllabus: Science and Technology.

Static Dimensions

- About Artemis Accords
- Artemis Mission

Current Dimensions

- Need for Such an Accord
- Significance of Artemis Accords
- Competition to Artemis Accords
- Issues with the Artemis Accords
- India and Artemis Accords

Content

About Artemis Accords

- NASA, the U.S. civil space agency, announced the Artemis Accords in October 2020. It is an agreement for lunar exploration and beyond, with participation of both

international partners and commercial players.

- **Eight founding members** initially registered themselves as the Artemis Accords countries. Apart from America, the other participants are the **United Kingdom, UAE, Luxembourg, Australia, Japan, Canada and Italy.**
 - Currently, twenty nations have been approved for the NASA-led Artemis Accords project.
- The program also envisages the landing of the first woman on the Moon by 2024.
- The Artemis Accords are guided by key principles of peaceful exploration,
 - Transparency, interoperability, emergency assistance, registration of objects, release of scientific data, preserving outer space heritage, preventing harmful interference, and safe disposal of space debris.
- These are also principles enshrined in the existing international space law including the foundational legal instrument, the **Outer Space Treaty (OST) of 1967**, and the accords thus can reinforce the existing international space regime.
- While the Artemis Accords have been developed primarily by the U.S. for pushing lunar exploration, its utility in the broader area of global governance is also important.

Need for Such an Accord

- One of the serious problems facing outer space activities is the absence of full compliance by states to their commitments under the existing legal framework.
- A fuller compliance to treaty commitments by state parties can immediately change the dynamics in terms of openness and transparency, which will help reduce suspicion between different space powers.
- The need for more confidence building measures that

would reassure states of their policies and activities in outer space cannot be emphasised enough.

- Given that global politics has grown much more competitive, the major spacefaring powers (many of whom are also the major global powers) need to make significant investments in measures that would enhance trust and confidence in each other.
- Therefore, space powers need to contemplate the global governance challenges they face and how they might address these.
- The Artemis Accords might provide one option, though not the only one.
- Moreover, this is not to suggest that legal measures, including formal treaties, should not be pursued.
- Unfortunately, additional legally binding treaties may not be possible in the immediate future, though they may be an option for the longer term.

Significance of Artemis Accords

- It would be useful to have spacefaring powers agree upon and comply with a common set of principles, guidelines, and best practices, which could be greatly beneficial for safe and sustainable use of space and maintain space as common heritage for all humankind.
- This is only a political commitment for ensuring better compliance with the commitments that state parties have already made by being parties to the OST and its four subsidiary agreements.
- More rigid standards for exploring the Moon.
 - For instance, the agreement establishes areas on the Moon called “safety zones.” If one nation is conducting work on a region of the lunar surface, it’ll let the other signatories know and other countries will not interfere in that area.
- The Accords also call for the preservation of heritage sights, such as the landing locations for the Apollo

missions, and also protect the “extraction and utilisation” of space resources.

- As more countries sign on, it’s possible that the Artemis Accords may serve as a new framework for international space agreements in the future – one that might be slightly faster and more nimble than the often slow treaty route.

Competition to Artemis Accords

- The Artemis Accords are not the only initiative that has been proposed.
 - There are also some proposals made by China and Russia to build an **International Lunar Research Station (ILRS)**, and the two countries are currently seeking countries and international organisations to join their endeavour.
- This was reportedly announced on the sidelines of the **58th session of the Scientific and Technical Subcommittee of the United Nations’ Committee on the Peaceful Uses of Outer Space (COPUOS)** in April.
 - China National Space Administration (CNSA) and Russia’s Roscosmos have invited partners to join them at all stages of this proposal including planning, design, research, development, implementation, and operations.
- China and Russia entered into this partnership in March this year.
 - It remains to be seen what kind of support Russia and China will get, but it is quite evident that even with regard to lunar activities and governance proposals, the global community is going to be divided.
- Unfortunately, it is reasonable to expect that countries will support the Artemis Accords or the ILRS based on their political leanings far more than the merits of each proposal.

Artemis Mission

- NASA's Artemis mission aims to put humans back on the moon for the first time after the Apollo 17 mission, fifty years ago.
- The expected launch time for **Artemis 1** is August 2022, though earlier this was supposed to be in May 2022. Originally, it was supposed to take place in 2021, so this remains delayed so far.
 - The **Artemis 1** mission will be an uncrewed tested flight, while the second mission will have a crew.
 - The mission will see the launch of the most powerful rocket in the world. It will travel over 450,000 kilometres from Earth, and go to the moon in a trip that takes place over several days.
 - The Orion spacecraft will fly about 100 kilometres above the surface of the Moon before using the satellite's gravitation force to propel itself into an opposite orbit about 70,000 km away from the Moon.
- The lunar landing is only expected in **Artemis III**, which right now is scheduled for 2025.
- **Artemis IV** will be a crewed mission to the Lunar gateway, while missions V to VIII propose to land more astronauts on the Moon for further research.
- **NASA's Gateway program** is building a small human-tended space station that will orbit the moon in the NRHO.
 - It is aimed at providing capabilities to support NASA's Artemis campaign to the Moon and for other missions beyond the Moon, including Mars and the asteroid belt

Issues with the Artemis Accords

- The accords do not mention the **Moon Agreement (1979)**. This treaty has been controversial because it proclaims that the Moon and its resources are the "common heritage

of mankind,” a formulation that has never been popular with the United States.

- Only **18 countries** have ratified the agreement, and no major spacefaring country has joined. Eg- European Space Agency, Russia.
- Many countries have plans to launch missions to the Moon, and the Artemis Accords do not apply to foreign space activities conducted outside the Artemis Program.
- The most controversial aspect of the Artemis Accords involves the issue of space resources.
 - The accords reinforce the long-standing U.S. position that the Outer Space Treaty permits countries to use resources, such as minerals and ice on the Moon and Mars, in space activities.
 - The Russian space agency, compared the U.S. stance to colonialism, in claiming for the United States the right to seize territories and resources in space.
- The Artemis Accords will be intergovernmental and will not apply to commercial enterprises interested in pursuing lunar activities.
- The concept of utilising space resources is seen by some as conflicting with the Outer Space Treaty’s instruction not to claim sovereignty of a celestial object.
- NASA didn’t go through the traditional treaty-making process through the United Nations.

India and Artemis Accords

- **Lunar Mission**
 - India’s lunar programme has had limited success. It has two missions in orbit. The first and only mission to the surface failed in September 2019.
 - The US has collaborated with India on Chandrayaan 1, the first lunar mission. India is also collaborating with Japan on a future lunar mission, called LUPEX, to the Moon’s surface.

Japan is also a signatory to the Artemis Accords.

- India's **human space programme** depends on Russia for astronaut training. It is presently in the process of setting up its own facilities for the human spaceflight training programme.
 - The US, France, Germany and Italy in Europe, and Japan have also offered help to India with human spaceflight training.
 - India also depends on Ukraine for semi-cryogenic engines – and Ukraine is a signatory to the accords.

Significance for India

- The various dependencies in advanced space technologies make up an important background to understand the context in which India is operating. They may play a role in India's decision on whether to join the Artemis Accords.
- India is sharpening the Indian Space Research Organisation's focus on R&D and advanced missions. Given this, it's essential that India be an early participant in the Artemis Accords, so that it can gain lessons and expertise from other countries that are members of the accords.
 - This could be things like robotics from Canada, sample return and avionics from Japan, and ground station and deep space network expertise from the US and Australia.
- The accords form a natural extension of the Quad's Critical and Emerging Technologies Working Group.
 - The US, Japan and Australia are already signatories of the accords.
 - India's addition to the accords would provide a framework for space cooperation among these Quad countries, and could also be extended to other critical and emerging technologies.

- India has a lot to offer and a lot to gain from strengthening this connection. Signing the accords would make it easier to collaborate with other signatories.
- By being a part of the accords, India's space companies could become part of a global supply chain, along with Indian SMEs and NewSpace startups.
 - This would also help attract investment capital towards Indian space startups and lead to flow of capital into India.
- The Artemis Accords provides an opportunity to learn about interplanetary missions and human spaceflight. India must take advantage of this opportunity.

Issues

- There may be fears about what might happen to the indigenous programme if India were to participate in the Artemis Accords.
- There is a necessity to have clarity on issues like ownership of Space Resources, before India joins.
- Many of India's own space projects have been delayed owing Covid-19 crisis and there is a need to complete them first. It is important to keep focus on priorities .
- Using bilateral agreements that dictate norms of behaviour as a condition of involvement in a programme is a cause for concern.

WayForward

- India should encourage the involvement of the private sector in communications and Earth-observation satellites construction and launch and also outline its priorities for interplanetary and human spaceflight missions and actively pursue them.
 - Aligning them with interests of countries that provide expertise in certain areas could be the

best use of the Artemis Accords for India.

- Signing up for the accords must not be equated to severing ties with Russia. India has maintained a relationship with Russia in other strategic areas and the same could apply for space after India signs the accords as well.
- India also plans to build its own space station. These accords will aid India in these endeavours.
- India has traditionally been wary of cooperation with the US on outer space, although their working together on the Chandrayaan 1 and NASA-ISRO Synthetic Aperture Radar (NISAR) missions have helped to build and restore some confidence in each other.
 - These could be the stepping stones for India to sign the accords themselves.

Mould your thoughts

Q.Artemis Accords ensures that space exploration is conducted in a safe, sustainable and transparent manner and in full compliance with international law. Critically Analyse. Also discuss should India Join the accord. (250 Words)

Approach to the answer

- About the Artemis Accord.
- Significance and Issues with the accord.
- Opportunities for India.
- Challenges for India with the Accord.
- Way Forward and Conclusion.