

## Prelim Bits 11-05-2023 | UPSC Daily Current Affairs

### Indian Space Policy 2023

*The Indian Space Research Organisation (ISRO), released the Indian Space Policy 2023.*

- The 'Vision' is to enable, encourage and develop a flourishing commercial presence in space economy.
- It defines the role of ISRO in socio-economic development, protection of environment, pursuing peaceful exploration of outer space, stimulation of public awareness and scientific quest.
- The policy creates 4 distinct entities that will facilitate greater private sector participation in activities that have usually been the traditional domain of the ISRO.
- **Indian National Space Promotion and Authorisation Centre (InSPACe)** - It will be a single window clearance and authorisation agency.
- It will provide clearance for space launches, establishing launch pads, buying and selling satellites, and disseminating high-resolution data among other things.
- It will also share technologies, products, processes and best practices with non-government entities (NGEs) and this will include private companies and government companies.
- **New Space India Limited (NSIL)** - It will be responsible for commercialising space technologies and platforms created through public expenditure.
- It is also responsible for manufacturing, leasing, or procuring space components, technologies, platforms and other assets from the private or public sector.
- **Department of Space** - It will provide overall policy guidelines and be the nodal department for implementing space technologies.
- It will also co-ordinate international cooperation and coordination in the area of global space governance and programmes in consultation with the Ministry of External Affairs.
- It will also create an appropriate mechanism to resolve disputes arising out of space activity.

### References

1. [The Hindu | A ground view of the Indian Space Policy 2023](#)
2. [ISRO | Indian Space Policy - 2023](#)

### Pokhran-II

*25 years ago India carved out a new future for itself by conducting underground nuclear tests at Pokhran.*

- On May 11, 1998, the veil was finally lifted. After conducting three underground tests at Pokhran, followed by two more on May 13.

- Pokhran-II consisted of five detonations, of which the first was a fusion bomb and the remaining four were fission bombs.
- **Sanctions** - For nearly two months, the U.S. refused to have any dialogue with India and implemented the Glenn Amendment for the first time.

*Under the Glenn Amendment, if the U.S. President determines that a non-nuclear weapon state detonates a nuclear explosive device, certain sanctions apply.*

## **Nuclear Organisations**

- **Comprehensive Test Ban Treaty (CTBT)** - It prohibits any nuclear weapon test explosion or any other nuclear explosion anywhere in the world.
- The treaty was opened for signature in September 1996, and has been signed by 186 nations and ratified by 176.
- The treaty cannot formally enter into force until it is ratified by 44 specific nations, eight of which have yet to do so: China, India, Pakistan, North Korea, Israel, Iran, Egypt, and the United States.
- **International Atomic Energy Agency (IAEA)** - Also known as the world's Atoms for Peace and Development organization within the United Nations.
- It is the international centre for cooperation in the nuclear field.
- The Agency works with its Member States and multiple partners worldwide to promote the safe, secure and peaceful use of nuclear technologies.
- **Nuclear Suppliers Group (NSG)** - It is a group of nuclear supplier countries that seeks to contribute to the non-proliferation of nuclear weapons.
- The NSG Guidelines also contain the so-called Non-Proliferation Principle, adopted in 1994.
- India is not a member of the Nuclear Suppliers Group.

## **References**

1. [The Hindu | Pokhran-II: A moment of profound epiphany](#)
2. [Times of India | Pokhran-II was the right security call](#)

## **UN Report on Maternal and Newborn Deaths**

*The report on improving maternal and newborn health and survival and reducing stillbirth placed India at the top of the list of global maternal deaths, stillbirths and neonatal births.*

## **Findings**

- **MMR** - Maternal mortality ratio observed an annual reduction rate of 2.8% during 2000-2009, which decreased to 1.3% during 2010-2020.
- An improvement of reducing this indicator by 11.9% is required in the next decade to meet global targets of an MMR equivalent to 70 deaths per 1,000 live births.
- **SBR** - Between 2000 and 2009, the stillbirth rate was reduced by 2.3 per cent and by 1.8 per cent between 2010 and 2021.
- A 5.2 per cent reduction is required between 2022 and 2030 to meet global targets of

less than 12 stillbirths per 1,000 live births.

- **NMR** - Neonatal mortality rate (NMR) records a similar trend; a 3.2% reduction between 2000 and 2009, 2.2% reduction in 2010 and 2021.
- NMR needs to be reduced by another 7.2% between 2022 and 2030 to meet the global target of ending newborn mortality.
- **Rankings** - India tops the list of 10 countries which bear 60% of global maternal deaths, stillbirths & newborn deaths burden.
- Following India are Nigeria, Pakistan, Democratic Republic of Congo, Ethiopia, Bangladesh, China, Indonesia, Afghanistan and Tanzania.

## Quick Facts

- **The maternal mortality ratio (MMR)** - It is defined as the number of maternal deaths during a given time period per 100,000 live births during the same time period.
- **The stillbirth rate (SBR)** - It is defined as the number of babies born with no signs of life at 28 weeks or more of gestation, per 1,000 total births.
- **Neonatal mortality rate (NMR)** - It is the rate of deaths per 1,000 live births at which babies of either less than four weeks or of one year of age die, respectively.
- It is also known as Infant Mortality Rate (IMR).

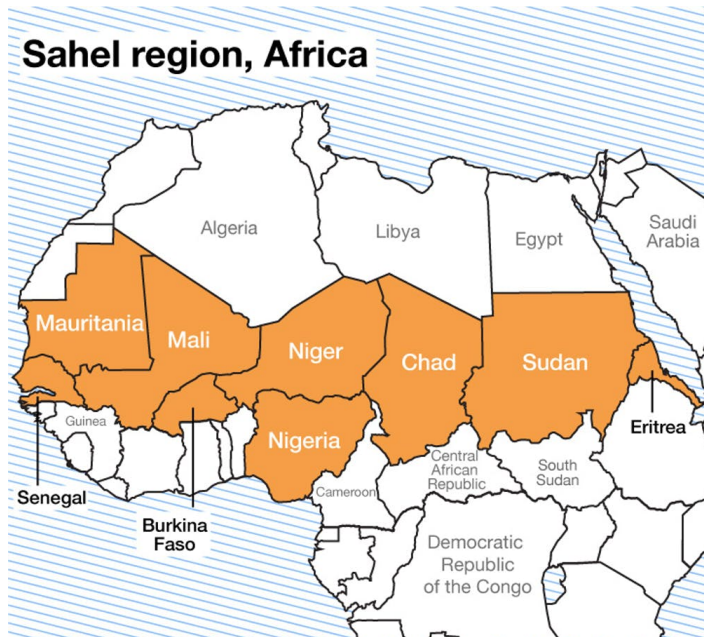
## References

1. [Down To Earth | Progress in tackling maternal as well as newborn deaths stagnant since 2015](#)
2. [WHO | Improving maternal and newborn health and survival and reducing stillbirth](#)

## Sahel Region

*The ongoing fighting in the Sudan threatens the entire Sahel region.*

- The Sahel region of Africa is a 3,860-kilometre arc-like land mass lying to the immediate south of the Sahara Desert and stretching east-west across the breadth of the African continent.
- It is a largely semi-arid belt of barren, sandy and rock-strewn land.
- The Sahel marks the physical and cultural transition between the continent's more fertile tropical regions to the south and its desert in the north.
- Geographic definitions of the Sahel region vary.
- Sahel stretches from Atlantic Ocean eastward, from Senegal to Sudan.
- In between, it covers southern Mauritania, the great bend of the Niger River in Mali, Burkina Faso (formerly Upper Volta), southern Niger, north-eastern Nigeria, and south-central Chad.
- It forms a transitional zone between the arid Sahara (desert) to the north and the belt of humid savannahs to the south.
- Culturally and historically, the Sahel is a shoreline between the Middle East and sub-Saharan Africa.
- This means it is the site of interaction between Arabic, Islamic and nomadic cultures from the north, and indigenous and traditional cultures from the south.



## References

1. [The Indian Express | The Sudan crisis threatens the entire Sahel](#)
2. [UN | The Sahel: Land Of Opportunities](#)

## Fomalhaut

*Webb telescope spots three debris belts around luminous star Fomalhaut.*

- Scientists' unveiled observations by the James Webb Space Telescope showing new details about such features around a luminous star called Fomalhaut.
- It is located in the neighbourhood of the Milky Way galaxy.
- These observations of three concentric dusty rings of debris orbiting Fomalhaut provide the fullest view to date of such structures outside our solar system.
- Fomalhaut, one of the brightest stars in our night sky and the brightest in the southern constellation Piscis Austrinus, is located 25 light years from Earth.

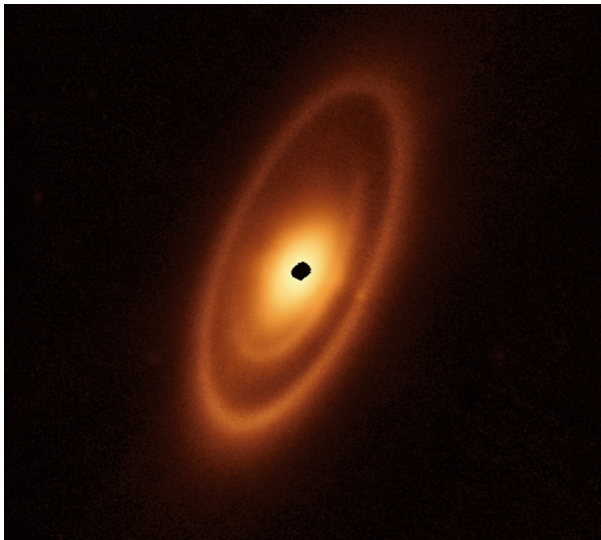
*A light year is the distance light travels in a year, 5.9 trillion miles (9.5 trillion km).*

- Astronomers first discovered a single belt of debris around Fomalhaut in 1983.
- These three belts appear to be populated by objects called planetesimals, some of which are thought to join together early in a star system's history to form planets while others remain as debris like asteroids and comets.

*Planetesimals are a minute planet, which could come together with many others under gravitation to form a planet.*

- Fomalhaut is 16 times more luminous than the sun and almost twice as massive.
- It is about 440 million years old, less than a tenth the age of the sun, but is probably

nearly halfway through its lifespan.



## References

1. [The Indian Express | Webb spots 3 three debris belts around Fomalhaut](#)
2. [NASA | Webb Looks for Fomalhaut's Asteroid Belt](#)

