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Naming of Craters on Mars

Recently, scientists at the Physical Research Laboratory (PRL) discovered three craters on Mars.

- The 3 craters situated in the ***Tharsis volcanic region*** have been named for
 - Renowned cosmic ray physicist late Devendra Lal
 - The towns of Mursan, Uttar Pradesh and
 - Hilsa, Bihar.

Tharsis is a vast volcanic plateau centered near the equator in the western hemisphere of Mars. The region is home to the largest volcanoes in the Solar System.

- The naming is approved by ***International Astronomical Union (IAU)***.
- The discovery was made within the Mangala crater of Mars using ***SHARAD (Mars SHallow RADar sounder)***.

SHARAD is a subsurface sounding radar mounted on the Mars Reconnaissance Orbiter (MRO) probe.

- The discovery of the craters provided compelling evidence that water moved large volumes of sediment into the newly discovered Lal crater.
- It also confirmed that Mars was once wet and water has flown on its surface.
- **Lal crater** - It is the biggest among the 3 craters, entire area is covered with lava.
- **Mursan crater**- It is superimposed on the ***eastern side*** of the rim of the Lal crater.
- **Hilsa crater**- It is superimposed on the ***western side*** of the rim of the Lal crater.

International Astronomical Union (IAU)

- The IAU is an apex governing international professional astronomical activities worldwide.
- **Established**- 1919.
- **Headquarters**- Paris, France.
- **Objective**- To promote and safeguard astronomy in all its aspects (including research, communication, education and development) through international cooperation.
- **Member**- IAU membership spans 92 countries, ***India is a member*** of the International Astronomical Union.

References

1. [The Indian Express | Craters on Mars](#)
2. [IAU | About](#)

Nagarhole Tiger Reserve

Recently, Ashwatthama, a Dasara elephant, died due to alleged electrocution in Karnataka.

- **Location** - Nagarhole is an important Tiger Reserve in **Karnataka**, supporting the highest number of wild tigers in India and single largest Asiatic elephant population in the world.
- It is previously known as **Rajiv Gandhi National Park**.
- Nagarhole is contiguous with Wayanad wildlife sanctuary (Kerala) to the south and Bandipur Tiger Reserve to its south eastern parts.
- **Established in** - It is established as a wildlife sanctuary in 1955 and was upgraded into a national park in 1988.
- **Reservoirs** - The Kabini and Taraka reservoirs are large waterbodies in the park.
- **River Kabini** separates the Nagarhole & Bandipur tiger reserve.
- **Tiger population**- Nagarhole is acclaimed as one of the high-density tiger populations in the country after Corbett & Kaziranga tiger reserves respectively.
- It is part of **Nilgiri Biosphere Reserve**, one of the oldest and largest conservation areas in the world.
- It was declared as the **37th Tiger reserve** under Project Tiger in 1999.
- **Flora** - The forests are interspersed with Marshy Swamps called 'Hadlu', characterised by open grassy lands with scattered presence of stunted specimens.
- **Fauna** - Leopard, Asiatic Wild Dog, Sloth Bear, Asiatic Elephant Gaur, Sambar, Chital, Muntjac, Four Horned Antelope, Wild Pig Mouse Deer and South-western langur.

References

1. [The Indian Express| Nagarhole Tiger Reserve](#)
2. [NTCA | Nagarhole Tiger Reserve](#)

Microalgae

Scientists at the CSIR-Indian Institute of Chemical Technology (IICT) have identified microalgae as a potential protein supplement.

- **About**- Microalgae are **microscopic, single-celled** organisms that belong to a diverse group of microorganisms called algae.
- **Size** - It can range from a few micrometers (μm) to a few hundreds of micrometers, they don't have roots or stems.
- **Diversity and Types**-

- **Green Algae**- Such as Chlorella and Spirulina.
 - **Diatoms**- Have intricate silica shells.
 - **Blue-Green Algae (Cyanobacteria)** - Like Spirulina.
 - **Red Algae**- Used in agar production.
 - **Golden Algae**- Such as Chrysophytes.
- **Photosynthetic Nature** - Algae are mostly photosynthetic in nature. They are also important for carbon sequestration, as they can absorb carbon dioxide from the atmosphere through photosynthesis.
 - **Habitat**- Microalgae are found in diverse habitats including freshwater, marine environments, soil, and even ***extreme environments like hot springs and polar regions.***
 - **Significance** - Microalgae play a crucial role in the ecosystem as they form the base of the food chain, providing nutrients for various organisms.
 - **Nutrition**- Rich source of proteins, vitamins, minerals, and omega-3 fatty acids.
 - **Nutritional Supplements**- ***Spirulina and Chlorella*** are consumed as dietary supplements due to their high nutritional value.

Chlorella Growth Factor (CGF)

- Scientists at CSIR-IICT have identified Chlorella Growth Factor (CGF), extracted from ***Chlorella sorokiniana microalgae***, as a valuable ingredient for food and feed.
- Chlorella's nucleus contains a unique substance produced during photosynthesis, packed with peptides, amino acids, nucleotides, polysaccharides, vitamins, and minerals.
- CGF, rich in ***amino acids and high-quality protein***, shows great potential as an alternative protein source for both humans and animals.

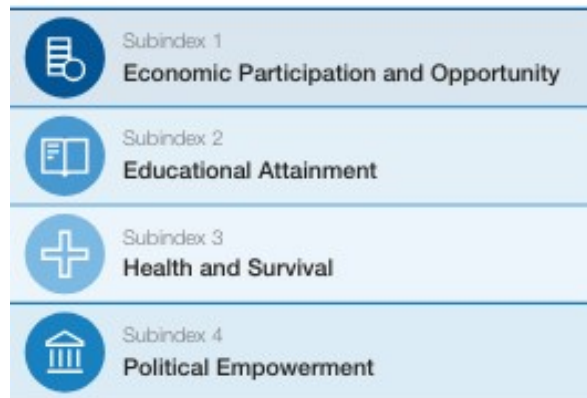
Reference

[The Hindu | Microalgae](#)

Global Gender Gap Report 2024

Recently, the Global Gender Gap Report 2024 was released by the World Economic Forum (WEF).

- **About**- The Global Gender Gap Index ***annually*** benchmarks the current state and evolution of gender parity.
- **Released by** - World Economic Forum (WEF).
- **Adoption** - Adopted in 2006.
- It benchmarks gender parity across ***146*** countries.
- **Four Parameters**



- It measures scores on a 0 to 100 scale and scores can be interpreted as the distance covered towards parity (i.e. the percentage of the gender gap that has been closed).

Highlights of the report, 2024

Global

- The 2024 Global Gender Gap Index highlights that while ***no country*** has achieved full gender parity.
- Iceland is ranked **1st**, most gender equal country and has been leading the index for a decade and a half.
- European economies occupy 7 spots out of the global top 10.
- **Bangladesh** is the 1st country in the Southern Asia to get a double-digit rank of 99.
- The world has closed **68.5% of the gender gap**, indicating progress toward gender equality, but underlining the need for ongoing efforts.
- **Political disparity** - It is high in entire South Asia although the region has moved 4% points towards political parity since 2006.
- **Health and Survival gap**- It has closed by 96%.

Global Gender Gap Report 2024

Largest gender gaps

The two largest gaps to bridge are in Economic Participation and Opportunity, and Political Empowerment



Source: Global Gender Gap Report 2024

WORLD
ECONOMIC
FORUM

India's status in 2024

- **Rank-** India has been ranked **129th** out of 146 countries, a decline from its previous position of 127th in 2023.
- India ranked is the **3rd-lowest** among the **South Asian** economies, lower than Bangladesh, Nepal, Sri Lanka, and Bhutan.

Global Gender Gap Index rankings by region, 2024

| Southern Asia | | | |
|---------------|----------|--------|-------|
| Economy | Rank | | Score |
| | Regional | Global | |
| Bangladesh | 1 | 99 | 0.689 |
| Nepal | 2 | 117 | 0.664 |
| Sri Lanka | 3 | 122 | 0.653 |
| Bhutan | 4 | 124 | 0.651 |
| India | 5 | 129 | 0.641 |
| Maldives | 6 | 132 | 0.633 |
| Pakistan | 7 | 145 | 0.570 |

- **Political Empowerment-** India has better representation of women as heads of state compared to **ministerial positions** and parliament.
- Women hold **40.7% of head-of-state** positions but only 6.9% in ministerial positions and 17.2% in parliament.
- Only 2 out of 30 Union ministers in the newly formed Indian cabinet are women.
- The number of female ministers in the Central Council of Ministers has decreased from 10 to 7.
- **Economic Participation-** India has made progress in economic participation and opportunity but still ranks low at **142nd place**.
- **Education-** Although women in India have high enrolment rates in primary, secondary, and tertiary education, there's still a significant gender gap in literacy rate (17.2% points).
- India ranks **124th globally in this indicator**.

References

1. [Down to Earth | Global Gender Gap Report 2024](#)
2. [Weforum | Global Gender Gap Report 2024](#)

Renaming of sites in Uttarakhand

The Centre approved the Uttarakhand government's proposal for renaming the Joshimath and Kosiyakutoli.

- **New name-**
 - Joshimath tehsil to Jyotirmath in Chamoli district
 - Kosiyakutoli tehsil to Pargana Shri Kainchi Dham in Nainital district
- **Objective-** To enhance the ***religious and cultural significance*** of these areas, in a state that is already a major destination for religious tourism.
- **Approved by-** The Union Ministry of Science and Technology with No Objection Certificate.
- **Constitutional provision- Article 3** of the Indian Constitution deals with the formation of new States and alteration of areas, boundaries or names of existing States.
- **Joshimath tehsil-** The name “Jyotirmath” comes from the divine light of knowledge he is said to have attained, with ‘jyoti’ meaning divine light.
- Jyotirmath is one of the 4 cardinal mathas (monasteries) that 8th-century philosopher ***Adi Shankaracharya*** is believed to have established across India to promote the Advaita Vedanta philosophy.
- The Jyotirmath was established for the preservation and dissemination of spiritual knowledge and practices.
- **Kosiyakutoli tehsil-**Kosiyakutoli came to be known for its association with Neem Karoli Baba and the Kainchi Dham Ashram he founded in 1962.
- In the name “Kosiyakutoli”, ***“Kosi” refers to the river*** of the same name which flows through the Nainital district and is important for the Kumaon region of Uttarakhand.

Reference

[The Indian Express | Renaming of sites in Uttarakhand](#)

