

COP27: UN TO SET UP SYSTEM TO TRACK METHANE EMISSIONS FROM SPACE

In News:

- The Methane Alert and Response System (MARS) was launched at the 27th Conference of Parties (COP27) to the United Nations Framework Convention on Climate Change in Sharm El-Sheikh, Egypt.
- MARS is a new satellite-based system will now help governments detect methane emissions and tackle them.

News Summary

- As part of global efforts to slow climate change by tackling methane, the UN announced a new satellite-based system to detect emissions of the climate warming gas and allow governments and businesses to respond.

Methane Alert and Response System (MARS)

- MARS is a data-to-action It was set up as part of the UN Environment Programme's (UNEP) International Methane Emissions Observatory (IMEO) strategy to get policy-relevant data into the right hands for emissions mitigation.
- The system will be the first publicly available global system to connect methane detection to notification processes
 - It will use **state-of-the-art satellite data** to identify significant emission events, notify relevant stakeholders, and support and track mitigation progress.
- MARS has been developed in the framework of the **Global Methane Pledge Energy Pathway** – with initial funding from the European Commission, the US Government and other stakeholders.
 - In June 2022, the Global Methane Pledge (GMP) Energy Pathway was launched
 - It was launched with an aim to catalyse methane emissions reductions in the oil and gas sector, advancing both climate progress and energy security.
 - The GMP Energy Pathway aims to encourage all nations to:
 - Capture the maximum potential of cost-effective methane mitigation in the oil and gas sector, and

- Eliminate routine flaring as soon as possible, and no later than 2030.
- MARS will be implemented with partners including the International Energy Agency, and the UNEP-hosted Climate and Clean Air Coalition.

Working of MARS

- Beginning with very large point sources from the energy sector, MARS will integrate data from the rapidly expanding system of methane-detecting satellites to include lower-emitting area sources and more frequent detection.
 - Data on coal, waste, livestock and rice will be added gradually to MARS to support Global Methane Pledge implementation.
- MARS will use data from global mapping satellites to identify very large methane plumes and methane hot spots and data from high-resolution satellites to attribute the emissions to a specific source.
- UNEP will then notify governments and companies about the emissions, either directly or through partners, so that the responsible entity can take appropriate action.
- If requested, MARS partners will provide technical or advisory services such as help in assessing mitigation opportunities.
- UNEP will continue to monitor the event location and make the data and analysis available to the public between 45 and 75 days after detection.

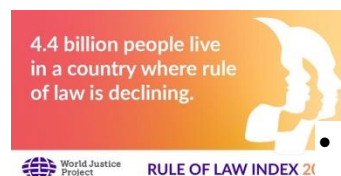
Need For MARS

- **Methane is a major greenhouse gas**
 - Methane is the second-most common of the six major greenhouse gases, but is far more dangerous than carbon dioxide in its potential to cause global warming.
 - Accounting for about 17 per cent of the current global greenhouse gas emissions, methane is blamed for having caused at least 25 to 30 per cent of temperature rise since the pre-industrial times.
- **Reduction in methane emissions brings big benefits in a short time**

- Unlike carbon dioxide, methane is largely a sectoral gas, and there are only a few sources of emission.
- It is possible, therefore, to cut down on methane emissions without having widespread impact on the economy.
- Because its global warming potential is about 80 times that of carbon dioxide, a reduction in methane emissions also brings big benefits in a short time.
- **Suggestions by different reports and organisations**
- As per UNEP's Emissions Gap Report, released before the current climate summit, the world is far off track on efforts to limit global warming to 1.5°C.
- Reducing methane emissions can make a big and rapid difference, as this gas leaves the atmosphere far quicker than carbon dioxide.
- According to the IPCC, we must cut methane emissions at least 30% by 2030 to keep the 1.5°C temperature limit within reach.
- Global Methane Pledge also aims to reduce global methane emissions at least 30 percent from 2020 levels by 2030.
- At the Glasgow climate conference held in 2021 (COP 26), nearly 100 countries had come together in a voluntary pledge to cut emission of Methane.
- This pledge is now referred to as the Global Methane Pledge. More countries have joined in this initiative since then, bringing the total to nearly 130.

[RULE OF LAW INDEX 2022](#)

The report is a compilation of the 'rule of law' status across 140 countries worldwide.



About:

- It was released by an international civil society organisation, World Justice Project (WJP).
- According to the report, the rule of law has declined globally for the fifth consecutive year.
- It says that the checks on executive power are weakening, and respect for human rights is falling.

Top and bottom performers:

- The top-ranked country in the WJP Rule of Law Index 2022 is Denmark, followed by Norway (2), Finland (3), Sweden (4), and the Netherlands (5).
- The bottom ranked countries are Venezuela (140), Cambodia (139), Afghanistan (138), the Democratic Republic of Congo (137), and Haiti (136).

India:

- India has been ranked 77 out of 140 countries with a score of 50 on the 'rule of law index'.
- Globally, India ranks 94 out of 140 as far as adherence to fundamental rights are concerned, 111 out of 140 in civil justice, 89 out of 140 in criminal justice and 93 out of 140 in absence of corruption.

Neighbouring countries:

- Bangladesh scored 0.39 in the 127th rank, Pakistan settled with a 0.39 score at the 129th rank, and China scored 0.47 in the 95th rank.
- Notably, Nepal has performed better than its neighbours, with a 0.52 score and 69th rank.

Factors:

- The index is prepared by examining these four principles through eight factors- **constraints on government powers, absence of corruption, open government, fundamental rights, order and security, regulatory enforcement, civil justice, and criminal justice.**

Rule of Law:

- The World Justice Project defines the rule of law as a durable system of laws, institutions, norms, and community commitment that delivers: accountability, just laws, open government, and accessible justice.

World Justice Project (WJP):

- The World Justice Project (WJP) is an independent, multidisciplinary organization working create knowledge, build awareness, and stimulate action to advance the rule of law worldwide.
- It was founded by William H. Neukom in 2006 as a presidential initiative of the American Bar Association (ABA).

Law and Order Index of 2022:

- The survey was conducted by a **global analytics firm called Gallup.**
- **India has scored 80 points and has secured the 60th rank on the index** that ranges from one to 100, a higher score indicating that more people feel secure in a country.
- It has declared East Asia as the most secure region in the world and Taliban-occupied Afghanistan as the least secured country for the third year.
- The first survey conducted by the firm was in 1938 in the United Kingdom.
- The survey evaluated around 120 countries based on the safety and security of the country's citizens.

DIGILOCKER

DigiLocker has successfully completed its second-level of integration with Ayushman Bharat Digital Mission (ABDM). The secure cloud-based storage platform of DigiLocker can be used now as a health locker for storing and accessing health records such as vaccination records, doctor prescriptions, lab reports, hospital discharge summaries etc.

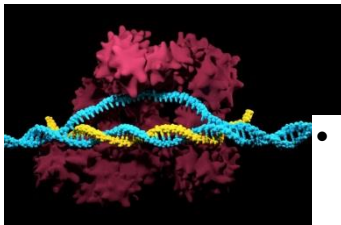


About:

- **DigiLocker is a flagship initiative of Ministry of Electronics & IT (MeitY) under Digital India programme.**
- DigiLocker aims at ‘Digital Empowerment’ of citizen by providing access to authentic digital documents to citizen’s digital document wallet.
- The issued documents in **DigiLocker system are deemed to be at par with original physical documents** as per Rule 9A of the Information Technology (Preservation and Retention of Information by Intermediaries providing Digital Locker facilities) Rules, 2016.
- **Benefits to Citizens:**
 - Important Documents Anytime, Anywhere!
 - Authentic Documents, Legally at Par with Originals.
 - Digital Document Exchange with the consent of the citizen.
 - Faster service Delivery- Government Benefits, Employment, Financial Inclusion, Education, Health.

CRISPR

According to a research published in the journal Nature, Scientists have, for the first time, used the CRISPR (Clustered Regularly Interspaced Short Palindromic Repeats) technology to insert genes that allow immune cells to attack cancer cells, potentially leaving normal cells unharmed and increasing the effectiveness of immunotherapy.



About:

- CRISPR is short for Clustered Regularly Interspaced Short Palindromic Repeats, which is a reference to the clustered and repetitive sequences of DNA found in bacteria, whose natural mechanism to fight some viral diseases is replicated in this gene-editing tool.
- Its mechanism is often compared to the ‘cut-copy-paste’, or ‘find-replace’ functionalities in common computer programmes.
- A bad stretch in the DNA sequence, which is the cause of disease or disorder, is located, cut, and removed — and then replaced with a ‘correct’ sequence.
- And the tools used to achieve this are not mechanical, but biochemical — specific protein and RNA molecules.
- The technology replicates a natural defence mechanism in some bacteria that uses a similar method to protect itself from virus attacks.

MEGALITHIC BURIAL SITES

Tirupati district is dotted with anthropomorphic burial sites, said to be the largest as a collection in Andhra Pradesh.



About:

- **Anthropomorphic sites** are those marked by a representation of human form above the megalithic burials.

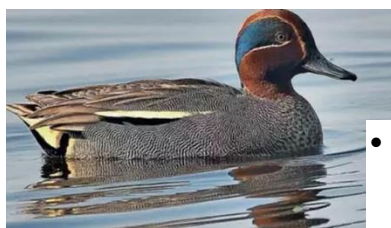
- The most prominent one is the ‘**pillared dolmen**’ of the megalithic era, found at Mallayyagaripalle, nestling on a hillock between Chandragiri and Dornakambala, in Tirupati.
- The structure locally referred to as ‘**Pandava Gullu**’ or ‘Pandavula Banda’ in memory of the Pandavas, is estimated to be 2,500 years old.
- There is another endangered megalith monument in Palem village near Kallur, which resembles a bull’s horn. It is called locally as ‘**Devara Yeddhhu**’.
- Another megalithic burial site in Venkatapuram is the ‘**stone circle**’, where the tomb is surrounded by round stones arranged in a circle.

Megalith:

- A megalith is a large stone that has been used to construct a structure or monument, **either alone or together with other stones.**
- The word **megalithic** describes structures made of such large stones without the use of mortar or concrete, representing periods of prehistory characterised by such constructions.
- The **construction of these structures** took place mainly in the Neolithic period and continued into the Chalcolithic period and the Bronze Age.

MIGRATORY BIRD SPECIES

With winter setting in, several migratory bird species have started flocking to the wetlands.



About:

- Delhi-NCR accounts for almost one-third of the total bird species found in India.
- The region has about 1,800 species of fauna out of which 446 are bird species.
- There are nine protected areas, including one national park, six wildlife sanctuaries, one reserve forest and one conservation reserve.
- There are eight important bird areas, including Okhla Bird sanctuary (Gautam Budh Nagar), Sultanpur National Park (Gurgaon), Hastinapur Wildlife Sanctuary (Muzaffarnagar, Meerut, Ghaziabad, Bijnor), Basai Wetlands (Gurgaon) etc. None of them are in Delhi.

- Some of the major migratory ducks are Northern shoveler, Gadwall, Greylag geese, Pallas's gulls, brown-headed and black-headed gulls, coots, etc.
- India is a winter home for most of the Siberian birds such as the Siberian Cranes, Greater Flamingo, and Demoiselle Crane, also numerous species of birds from other regions of the world.
- They migrate to India every year during the winter and summer season for food, breeding, and nesting.

The major global flyways:

- **Americas Flyway:** three flyways that connect North America with Caribbean and Central and South America.
- **African-Eurasian Flyway:** three flyways that connect Europe and northern Asia with Mediterranean, Middle East, and Africa.
- **Central Asian Flyway:** connects northern Asia with southern Asia and Middle East.
- **East Asian-Australasian Flyway:** connects north-east Asia with south-east Asia, Australia and New Zealand.

CURRENCY MONITORING LIST

The US Department of Treasury recently removed India along with Italy, Mexico, Thailand and Vietnam from its Currency Monitoring List of major trading partners that merit close attention to their currency practices and macroeconomic policies.



About:

- **India had been on the list for the last two years.**
- China, Japan, Korea, Germany, Malaysia, Singapore, and Taiwan are the seven economies that are a part of the current monitoring list.
- The countries that have been removed from the list have met only one out of three criteria for two consecutive reports.

Currency Manipulation:

- The **Trade Facilitation and Trade Enforcement Act of 2015** of US requires its Treasury Department to report to the Congress in every six months if any country is manipulating its currencies to gain trade advantages over the US.
- One of the ways of manipulation involves any country artificially weakening its currency by selling it in exchange for a foreign currency, usually the US dollar.
- This artificial weakening of currency makes its own exports cheaper, thereby gaining an unfair trade advantage over another country's exports.

Criteria:

- There are three criteria the US Treasury looks at in placing a country on the watch list:
 - **Significant trade surplus with the US** (at least \$20 billion in 12 months)
 - **A large current account surplus** (at least 2 per cent of GDP over a 12-month period)
 - **"Persistent", one-sided intervention** (when net purchases of foreign currency totalling at least 2 per cent of the country's GDP over a 12-month period are conducted repeatedly, in at least six out of 12 months).
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