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Prelim Bits 14-02-2023 | UPSC Daily Current Affairs

MIIRA

India is planning to propose the launch of a global initiative to encourage the consumption and production of millets.

- 'MIIRA' or '**Millet International Initiative for Research and Awareness**' will be launched by India during its G20 Presidency.
- MIIRA is aimed at coordinating millet research programmes at the international level.
- It is in line with the [International Year of Millets](#) and the Centre's plan to make India a global hub for millets.

The United Nations declared 2023 as the International Year of Millets.

- **Aim** - MIIRA will aim to connect the millet research organisations across the world while also supporting research on millet crops.
- **Functions** - MIIRA will set up a web platform to connect researchers and hold international research conferences.
- It also plans to promote millet consumption by raising awareness.
- It will reemphasize the nutritional value and the climate resilient nature of millets.
- **Secretariat** - The MIIRA secretariat will be in Delhi.
- **Funding** - India will contribute the "seed money" for MIIRA.
- Each G20 member contributes to its budget in the form of a membership fee.

References

1. [IE - MIIRA: India readies plan to popularise millets on world stage](#)

Quasicrystal

Scientists have discovered a new type of quasicrystal, one with 12-fold symmetry, in Nebraska, USA.

- Quasicrystal is essentially a crystal-like substance.
- But a quasicrystal consists of atoms that are arranged in a pattern that doesn't repeat itself regularly.
- The pattern repeats itself at irregular, yet predictable, intervals.
- In crystals atoms are arranged in a repeating pattern.

- Quasicrystals can be easily produced and scientists have been producing them in laboratories for years.
- It's rare to discover naturally occurring quasicrystals.
- Quasicrystals are found in meteorites or the debris from nuclear blasts.
- Until the new discovery, 3 varieties of quasicrystals are found in nature:
 1. Icosahedrite (5-fold symmetry in 2D)
 2. Decagonite (10-fold symmetry)
 3. Proxidecagonite (quasicrystal approximant)

The first one was identified in a meteorite, found in 2009 near the Khatyrka River in Chukhotka, Russia.

The second one was discovered in 2021 in the debris of the world's first nuclear explosion, which took place in 1945 in New Mexico.

- For the first time that researchers have found a quasicrystal elsewhere.
- The **dodecagonal** quasicrystal (12-fold symmetry) was formed during an accidental electrical discharge in the sand dune.

References

1. [IE - Scientists discover new 'quasicrystal' in Nebraska, US](#)
2. [The Hindu - Third source of natural quasicrystals](#)

Diyodar Meteorite

A meteorite streaked over India, breaking apart as it descended through the air to scatter over two villages in Banaskantha, Gujarat.

- The pieces that fell have been dubbed the Diyodar meteorite, after the taluka in which the villages are located.
- This is the second recorded crash of an aubrite in India. The last was on December 2, 1852, in Basti, Uttar Pradesh.

Worldwide, aubrites have crashed in at least 12 locations since 1836, including three in Africa and six in the U.S.

- The meteorite is a rare, unique specimen of aubrite whose origin is not sure.
- **Aubrites** - Aubrite is a type of meteorite.
- They are coarse-grained igneous rocks that form in oxygen-poor conditions.
- It contains a variety of exotic minerals that are not found on Earth.
- The meteorite is also classified as a monomict breccia.
- It consisted of several pyroxene-bearing pieces held together by a scaffold of rocky material.
- This pyroxene didn't contain any iron but was rich in magnesium.

- Around 90% of the meteorite was composed of orthopyroxene.

Pyroxenes are silicates consisting of single chains of silica tetrahedra (SiO₄). Orthopyroxenes are pyroxenes with a certain structure.

References

1. [The Hindu - 'Rare, unique': Diyodar meteorite](#)

Global Biofuel Alliance

India will work together with Brazil and the United States during the next few months towards the development of a Global Biofuels Alliance.

Brazil, India, and the United States are leading biofuel producers and consumers in the world.

- The Global Biofuel Alliance is one of the priorities under India's G20 Presidency.
- Global Biofuels Alliance will be developed by Brazil, India, and the United States together.
- The Global Biofuel Alliance will also be joined by other interested countries.
- **Aim** - Facilitating cooperation and intensifying the use of sustainable biofuels, including in the transportation sector.
- **Emphasis** - It will place emphasis on strengthening markets, facilitating global biofuels trade and developing concrete policy lesson-sharing.
- It will also emphasize the already implemented best practices and success cases.
- **Work** - In collaboration with and complement the relevant existing regional and international agencies as well as initiatives such as
 1. The Clean Energy Ministerial Bio-future Platform,
 2. The Mission Innovation Bioenergy initiatives, and
 3. The Global Bioenergy Partnership (GBEP).

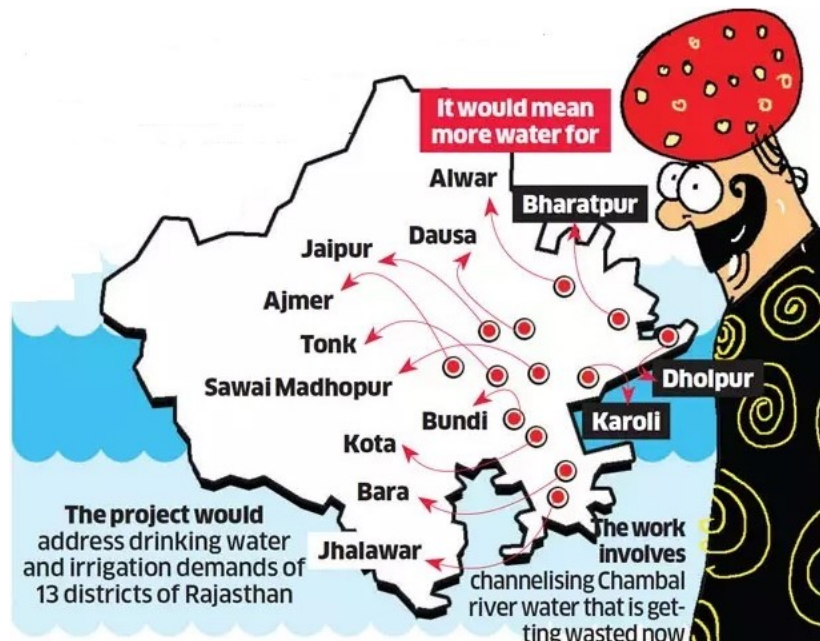
References

1. [PIB - India, US and Brazil to establish Global Biofuel Alliance](#)
2. [Business Line - Global Biofuel Alliance](#)

Eastern Rajasthan Canal Project

The Rajasthan Chief Minister has once again urged the Prime Minister to decide on declaring ERCP as National Project.

- The Eastern Rajasthan Canal Project (ERCP) is planned to meet the drinking and irrigation needs of the 13 districts of south-eastern Rajasthan.
- ERCP was first announced in the Rajasthan state Budget for 2017-18.
- The project was approved by the Central Water Commission in 2017.



- ERCP aims to harvest surplus water available during the rainy season in rivers in southern Rajasthan, such as the Chambal and its tributaries Kunnu, Parvati, and Kalisindh.
- The harvested thus water is used in the 13 water-scarce south-eastern districts of the state.
- Among the state's water bodies, only the Chambal river basin has surplus water, but this water cannot be tapped directly.
- The water is tapped through the help of diversion structures, intra-basin water transfers, linking channels, and building pumping main feeder channels.
- **State's Proposal** - The state wants the Centre to declare this as a national project so that the cost-sharing ratio between the Centre and the state becomes 90:10.

The ERCP aims to create a network of water channels that will cover 23.67% of the area and 41.13% of the population of the state.

References

- [IE - What is the ERCP?](#)
- [IE - What is Eastern Rajasthan Canal Project?](#)



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