



News Analysis (12 May, 2021)

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NASA's OSIRIS-REx Mission

Why in News

Recently, **NASA's OSIRIS-REx spacecraft departed from asteroid Benu**, and started its two-year long journey **back to Earth**.

OSIRIS-REx is NASA's first mission to visit a near-Earth asteroid, survey its surface and collect a sample from it.

Key Points

- **About OSIRIS-REx Mission:**

- It is the **United States' first asteroid sample return mission**, aiming to collect and carry a pristine, unaltered sample from an asteroid back to earth for scientific study.
- The **OSIRIS-REx (Origins, Spectral Interpretation, Resource Identification, Security, Regolith Explorer) spacecraft was launched in 2016** for the journey **to Benu**.
- The mission is essentially a **seven-year-long voyage** and will **conclude** when **at least 60 grams of samples are delivered back to the Earth (in 2023)**.
- As per the **National Aeronautics and Space Administration (NASA)**, the mission promises to bring the largest amount of extraterrestrial material back to the Earth since the **Apollo era**.
 - **Apollo** was the NASA program that resulted in American astronauts' making a total of 11 space flights and walking on the moon (1968-72).
- The spacecraft **contains five instruments meant to explore Benu** including cameras, a spectrometer and a laser altimeter.
- Recently, the **spacecraft's robotic arm called the Touch-And-Go Sample Acquisition Mechanism (TAGSAM)**, made an attempt to "TAG" the asteroid at a sample site and **collected a sample**.

- **Significance:**
 - Scientists will use the asteroid samples **to study the formation of the solar system and of habitable planets such as Earth.**
 - NASA will also **distribute a part of the samples to laboratories worldwide** and will **reserve about 75% of the samples for future generations** who can study it with technologies not yet created.
- **Asteroid Bennu:**
 - Bennu is **an ancient asteroid**, currently **more than 200 million miles from Earth.**
 - It is about **as tall as the Empire State Building (US)** and is **named after an Egyptian deity.**
 - The asteroid was **discovered** by a team from the NASA-funded **Lincoln Near-Earth Asteroid Research team in 1999.**
 - It is known that this asteroid is **a B-type asteroid**, implying that it contains significant amounts of carbon and various other minerals.
 - Because of its high carbon content, it reflects about 4% of the light that hits it, which is very low when compared with a planet like Venus, which reflects about 65% of the light that hits it. Earth reflects about 30%.
 - **Around 20-40% of Bennu's interior is empty space** and scientists believe that it was formed in the first 10 million years of the solar system's formation, implying that it is **roughly 4.5 billion years old.**
 - There is a slight **possibility** that Bennu, which is **classified as a Near Earth Object (NEO)**, might **strike the Earth** in the next century, between the **years 2175 and 2199.**
 - NEOs are comets and asteroids nudged by the gravitational attraction of nearby planets into orbits which allows them to enter the Earth's neighbourhood.
 - Bennu is believed to have been **born in the Main Asteroid belt between Mars and Jupiter** and because of gravitational tugs from other celestial objects and the slight push asteroids get when they release absorbed sunlight, the asteroid is coming closer to Earth.
 - Bennu **offers scientists a window into the early solar system** as it was first taking shape billions of years ago and tossing ingredients that could have helped seed life on Earth.
 - Significantly, Bennu hasn't undergone drastic changes since its formation over billions of years ago and therefore it contains chemicals and rocks dating back to the birth of the solar system. It is also relatively close to the Earth.

Asteroids

- These are **rocky objects that orbit the Sun**, much smaller than planets. They are also **called minor planets.**

- According to NASA, **9,94,383 is the count of known asteroids**, the remnants from the formation of the solar system over 4.6 billion years ago.
- Asteroids are **divided into three classes**:
 - **First**, those found in the **main asteroid belt between Mars and Jupiter**, which is estimated to contain somewhere between **1.1-1.9 million asteroids**.
 - The **second group** is that of **trojans**, which are **asteroids that share** an orbit with a **larger planet**.
 - The **third classification** is **Near-Earth Asteroids (NEA)**, which have orbits that pass close by the Earth. Those that cross the Earth's orbit are called **Earth-crossers**.
 - More than 10,000 such asteroids are known, out of which over 1,400 are classified as **Potentially Hazardous Asteroids (PHAs)**.
 - **PHAs** are currently defined based on parameters that measure the asteroid's potential to make threatening close approaches to the Earth.
 - Specifically, all asteroids with an Earth **Minimum Orbit Intersection Distance (MOID) of 0.05 au or less** and an **absolute magnitude (H) of 22.0 or less** are considered PHAs.

Source: IE

MLA-LAD Scheme

Why in News

Recently, **Rajasthan** Government has approved a proposal to **provide Rs. 3 crore each** from the **MLA Local Area Development (LAD) Fund** to mobilise resources for **Covid-19 Vaccination** of the people in the age group of 18 to 44 years.

For meeting the expenses, the **fund for each legislator** has been increased **from Rs. 2.25 crore to Rs. 5 crore a year**.

Key Points

- **Members of Legislative Assembly Local Area Development (MLA-LAD) Scheme:**
 - It is the **States' version of a central government scheme - Members of Parliament Local Area Development Scheme (MPLAD).**
 - The **objective** of this scheme is **to create local need based infrastructure**, to create **assets of public utility** and to **remove regional imbalances** in development.
 - This scheme is **implemented in rural areas as well as urban areas** of a state.
 - **MLAs do not receive any money** under this scheme. The government **transfers it directly to the respective local authorities.**
 - **The legislators can only recommend works** in their constituencies based on a set of guidelines.
 - **Amounts per MLA varies** across the states. Delhi has the highest allocation under MLALAD; each MLA can recommend works for up to Rs. 10 crore each year.
 - The **guidelines** for use of MLA-LAD funds **differ across states.**
 - **For example, Delhi MLAs** can recommend the operation of fogging machines (to contain dengue mosquitoes), installation of CCTV cameras etc.
 - After the legislators give the list of developmental works, they are executed by the district authorities as per the government's financial, technical and administrative rules.

- **Members of Parliament Local Area Development Scheme (MPLAD):**
 - It is a **Central Sector Scheme**.
 - It was **announced in December 1993** and initially came under the control of the Ministry of Rural Development. Later, **in October 1994**, it was transferred to the **Ministry of Statistics and Programme Implementation**.
 - **Each year, MPs receive Rs. 5 crore** in two instalments of **Rs. 2.5 crore each**. **Funds** under MPLAD Scheme are **non-lapsable**.
 - **Objective:**
 - To enable MPs to recommend works of developmental nature with emphasis on the creation of durable community assets based on the locally felt needs to be taken up in their Constituencies.
 - **Lok Sabha Members** can recommend works within their constituencies and elected Members of **Rajya Sabha** can recommend works within the State they are elected from.
 - **Nominated Members** of both the **Rajya Sabha and Lok Sabha** can **recommend** works anywhere **in the country**.
 - To create **durable assets of national priorities** viz. drinking water, primary education, public health, sanitation and roads, etc.
 - Since **June 2016**, the **MPLAD funds** can also be **used for** implementation of the schemes such as **Swachh Bharat Abhiyan**, **Accessible India Campaign (Sugamya Bharat Abhiyan)**, conservation of water through rain water harvesting and **Sansad Aadarsh Gram Yojana**, etc.
 - The Union Cabinet has given its nod to the **temporary suspension of MPLAD Funds** during 2020-21 and 2021-22 in view of the adverse impact of the outbreak of Covid-19 in India.
 - **Criticism:**
 - It is **inconsistent with the spirit of the Constitution** as it co-opts legislators into executive functioning.
 - The second criticism stems from **allegations of corruption** associated with allocation of works.

Source: TH

4th India-Swiss Financial Dialogue

Why in News

The 4th **India-Swiss Financial Dialogue** was held virtually through video conferencing.



Key Points

- **Highlights from the Dialogue:**
 - The matters relating to **G20, International Monetary Fund (IMF)** and **tax challenges arising from the digitalisation of the economy** were discussed along with **infrastructure financing**.
 - Emphasised the importance of **coordinated bilateral action on a clean and resilient post-Covid world**.

- **India-Switzerland Relations:**

- **Political Relations:**

- A **Treaty of Friendship** between India and Switzerland was signed at New Delhi in 1948.
- India's **policy of non-alignment** and Switzerland's traditional **policy of neutrality** has led to a close understanding between the two countries.

- **Economic Relations:**

- India-Switzerland **Bilateral Investment Treaty (BIT)** is under negotiation.
- Negotiations are also taking place on **India-EFTA Trade & Economic Partnership Agreement (TEPA)**.
 - The **European Free Trade Association (EFTA)** is the intergovernmental organisation of Iceland, Liechtenstein, Norway and Switzerland.
 - These countries are not part of the European Union (EU) with which India is negotiating a separate trade agreement called the India-EU Broad-based Trade and Investment Agreement.

- **Cooperation in Other Areas:**

- An **Indo-Swiss Joint Research Programme (ISJRP)** was launched in 2005.
- **Skill Training:** Several Institutes from both the countries have collaborated to impart the highest standards of skill training in India. E.g.:
 - Bharatiya Skill Development Campus and University, Jaipur.
 - Indo-Swiss Centre of Excellence, Pune.
 - Vocational Training Center, Andhra Pradesh.
- **Capacity Building for Low Carbon and Climate Resilient City Development (CapaCITIES):**
 - The **Swiss Agency for Development and Cooperation (SDC)** is supporting the implementation of the CapaCITIES project in Indian cities.
 - The CapaCITIES project aims to strengthen the capacities of Indian cities, to identify, plan and implement measures for reducing greenhouse gas emissions and for enhancing resilience to climate change in an integrated manner.

Source: PIB

Beema Bamboo

Why in News

The **Tamil Nadu Agricultural University (TNAU)** has designed an '**oxygen park**' within its premises at Coimbatore with **Beema Bamboo**.

Key Points

About Beema Bamboo:

- **Beema or Bheema Bamboo** is a superior clone, selected from **Bambusa balcooa**, a higher biomass yielding bamboo species. This bamboo clone has been developed by the conventional breeding method.
- This species is **considered to be one of the fastest-growing plants**. It **grows one-and-a-half feet per day** under tropical conditions.
- It is said to be the **best 'carbon sink'** to mitigate carbon dioxide emissions.

Bambusa balcooa

- Bambusa balcooa is a very large, thick-walled, clumping bamboo, growing up to a height of 25 metres, and a thickness of 150 millimetres.
- The **length and strength** of Bambusa balcooa make it **a useful material for the construction industry**.
- It is a **drought-resistant species** with low rainfall requirements and can reach yields upwards of 100 metric tons per hectare.

Importance:

- **Permanent Green Cover:**

As it is **sterile**, this bamboo does not produce any seed and does not die also for several hundred years and keeps growing without death. As a result, this particular bamboo species is **able to establish permanent green cover**.

- **Does Not Require Replanting for Decades:**

Since the plants are produced **through tissue culture**, the **culms grow almost solid and adapt** to different soil and climatic conditions. After every harvest cycle, it re-grows and does not require replanting for decades.

A culm is the hollow stem of a grass or cereal plant, especially that bearing the flower.

- **Can Mitigate Global Warming and Climate Change:**

As its rhizome and root formation provide a strong foundation, the plant becomes robust against natural forces and plays a major role in mitigating global warming and climate change.

- **Diverse Uses:**

- **The bamboo's calorific value is equal to that of coal.** Cement industries are buying this bamboo species for their boilers. Bamboo fibre is used by the textile industry for making fabric and garments.
- Experts from the Visvesvaraya National Institute of Technology (VNIT), Nagpur, are working on the **design of crash barriers** made of beema bamboo and coir.

Government Initiatives Related to Bamboo

- **Bamboo Clusters:**

Recently, the Union Minister for Agriculture and Farmers' Welfare has virtually inaugurated **22 bamboo clusters in 9 states** viz. Gujarat, Madhya Pradesh, Maharashtra, Odisha, Assam, Nagaland, Tripura, Uttarakhand and Karnataka.

- **National Bamboo Mission (NBM):**

- **The restructured NBM** was launched in **2018-19** for the holistic development of the **complete value chain of the bamboo** sector and is being implemented in a **hub (industry) and spoke model**.
- It aims at **connecting farmers** to markets so as to enable farmer producers to get a ready market for the bamboo grown and to increase the **supply of appropriate raw material** to the domestic industry.

- **Removal of Bamboo from 'Tree' Category:**

- The **Indian Forest Act 1927** was **amended in 2017** to remove bamboo for the category of trees.
- As a result, anyone can undertake cultivation and business in bamboo and its products without the need of a felling and transit permission.

Way Forward

- There are about **3 trillion trees** on earth and there is enough space on the planet for planting an additional **1.2 trillion trees** that would have huge benefits in terms of absorbing atmospheric carbon dioxide.
- The **Beema Bamboo** can be an excellent choice for making the earth greener and mitigating climate change.

Source: DTE

Proposal for Changing Promoters to Person in Control: SEBI

Why in News

Recently, the **Securities and Exchange Board of India (SEBI)** has **proposed doing away with the concept of promoters and moving to 'person in control.'**

It has also suggested **reducing the minimum lock-in periods** post a public issue for promoters and pre-**Initial Public Offering (IPO)** shareholders.

SEBI

- SEBI is a statutory body **established in April, 1992** in accordance with the provisions of the **Securities and Exchange Board of India Act, 1992**.

- The basic functions of the Securities and Exchange Board of India is **to protect the interests of investors in securities and to promote and regulate the securities market.**

Key Points

- **Promoter:**
 - The meaning of 'promoter' and 'promoter group' is **defined in Companies Act, 2013 and SEBI (ICDR) Regulations, 2018.**
 - Generally, **a promoter conceives an idea for setting-up a particular business** at a given place and performs various formalities required for starting a company.
 - **Promoter group** includes:
 - **Any body corporate** in which **a group of individuals or companies or combinations thereof acting in concert, which hold 20% or more of the equity share capital** in that body corporate **and**
 - Such a group of individuals or companies or combinations thereof **also holds 20% or more of the equity share capital of the issuer** and are also acting in concert.

An **issuer** is a legal entity that develops, registers and sells securities to finance its operations.
- **Promoter to Person in Control Concept:**
 - **Need:**
 - The shift is necessitated by the **changing investor landscape in India where concentration of ownership and controlling rights do not vest completely in the hands of the promoters or promoter group** because of the emergence of new shareholders such as private equity and institutional investors.
 - Investor **focus on the quality of board and management has increased**, thereby reducing the relevance of the concept of promoter.
 - The **current definition** focuses on capturing holdings by a common group of individuals or persons and often **results in capturing unrelated companies with common financial investors.**
 - **Significance:**
 - This move will **lighten the disclosure burden for firms.**
 - The changes in nature of ownership could **lead to situations where the persons with no controlling rights and minority shareholding continue to be classified as a promoter.**
 - By virtue of being called promoters, such persons may have influence over the listed entity disproportionate to their economic interest, which may **not be in the interests of all stakeholders.**
- **Transition Period:**

A **three-year transition period** for moving from the promoter to person in control concept has been suggested.

- **Reducing the Locking Period of IPOs:**

If the **object of the issue involves an offer for sale or financing other than for capital expenditure for a project**, then the minimum promoters' contribution of 20% should be **locked-in for one year from the date of allotment in the IPO**.

Currently, the lock-in period is three years.

Initial Public Offering

- IPO is the **selling of securities to the public in the primary market**.
 - Primary market **deals with new securities** being issued for the first time. It is also known as the **new issues market**.
 - It is **different from the secondary market** where existing securities are bought and sold. It is also known as the stock market or stock exchange.
- It is **when an unlisted company makes either a fresh issue of securities or an offer for sale of its existing securities or both** for the first time to the public.

Unlisted companies are companies that are not listed on the stock exchange.
- It is **generally used by new and medium-sized firms** that are looking for funds to grow and expand their business.

IPO-Locking Period

It is a caveat outlining a **period of time after a company has gone public when major shareholders are prohibited from selling their shares**.

Offer For Sale

- Under this method, **securities are not issued directly to the public but are offered for sale through intermediaries** like issuing houses or stock brokers.
- In this case, a company sells securities enbloc at an agreed price to brokers who, in turn, resell them to the investing public.

Source: IE

Biodegradable Yoga Mat

Why in News

Recently, six young girls from the fishing community from **Assam** have developed a **biodegradable and compostable yoga mat** called '**Moorhen Yoga Mat**'.

- The intervention was triggered through an initiative by **North East Centre for Technology Application and Reach (NECTAR)**.
- **NECTAR** is an autonomous society, set up under the Department of Science & Technology, with its headquarter at Shillong, Meghalaya.

Key Points

- **About the Mat:**
 - The 'Moorhen Yoga mat' is **named after Kam Sorai** (Purple moorhen, a resident bird of Deepor Beel Wildlife sanctuary).
 - It is a **hand-woven 100% biodegradable and 100% compostable mat developed from water hyacinth**.
 - The mat could **improve the aquatic ecosystem of the wetland (Deepor Beel) through removal of water hyacinth**, help **sustainable production of utility products** with community engagement and generate **livelihood for indigenous communities** to become completely '**Atamanirbhar**'.
- **Water Hyacinth:**
 - Water hyacinth is a **type of invasive floating plant** found in water bodies across the world.
 - These **invasive species** block the sunlight reaching and oxygen level in water systems, which results in damaging water quality and seriously affecting various life forms in the ecosystem.
 - It is **also referred to as the terror of Bengal** given its effect on the local ecology and lives of the people.
 - It has an effect on irrigation, hydroelectric generation and navigation.
 - It also leads to a drastic reduction in fish production, aquatic crops and an increase in diseases caused by mosquitoes.
- **Deepor Beel:**
 - Deepor Beel (Beel means wetland or large aquatic body in Assamese) **located about 10 km Southwest of Guwahati city** is considered **one of the large and important riverine wetlands in the Brahmaputra Valley of lower Assam**.
 - Deepor Beel has both biological and environmental importance besides being the **only major storm-water storage basin** for Guwahati city.
 - It is considered **one of the staging sites for migratory birds in India**; and some of the large congregations of aquatic birds in Assam during winter.
 - Because of the richness of avian fauna it enjoys, Deepor Beel has been selected as **one of the Important Bird Area (IBA) sites** by Birdlife International.
 - Deepor Beel has also been designated as a **Ramsar Site** in November 2002.

Source: PIB

National Technology Day

Why in News

India observes its **National Technology Day** on **11th May** every year.

Key Points

- **About:**
 - The day, which was **first observed on 11th May, 1999**, aims to **commemorate the scientific and technological achievements of Indian scientists, engineers.**
 - The day was **named by the former Prime Minister Atal Bihari Vajpayee.**
 - Every year, the **Technology Development Board of India** celebrates the day by **awarding individuals with the National Award for their contribution to science and technology in India.**
 - **Technology Development Board** is a **statutory body** of Government of India functioning under the **Department of Science of Technology.**
 - It **provides financial assistance** to Indian industrial concerns and other agencies, **for commercialization of indigenized technologies or adaptation of imported technologies** for wider domestic applications.
- **2021 Theme:**

Science and Technology for a Sustainable Future.
- **Significance:**
 - It is the day India successfully **tested nuclear bombs in Pokhran on 11th May, 1998.**
 - India successfully test-fired its **Shakti-1** nuclear missile in an operation called **Pokhran-II**, also codenamed as **Operation Shakti** which was led by late president **Dr APJ Abdul Kalam.**
 - The nuclear missile was tested at the Indian Army's Pokhran Test Range in Rajasthan. This was the second test which was conducted after Pokhran-I codenamed **Operation Smiling Buddha**, in May 1974.
 - On the same day, India performed a successful test firing of the **Trishul Missile (surface to air short range missile)** and had test flown the **first indigenous aircraft – 'Hansa – 3'.**

Source:PIB

HakkiPikki Tribe of Karnataka

Why in News

Recently, some people of the **HakkiPikki** Tribe survived **Covid-19** in **Karnataka.**

Key Points

- **About:**

- The HakkiPikki tribes are semi nomadic tribal people, have **four clans** namely the **Gujrathioa, Kaliwala, Mewara and Panwara**.
- They speak many **south Indian languages** such as **Kannada, Tamil, Telugu and Malayalam** along with **Vagribooli which is similar to Gujarati**.
- The HakkiPikki, **meaning “bird catchers”** in Kannada.
- It is a **Scheduled Tribe** in Karnataka.

- **Origin and History:**

- The origin of HakkiPikki tribal communities has a rich history and is said to be an ancestral relation with the legendary **Ranapratap Singh**.
- The HakkiPikki tribal community are a **Kshatriya or warrior tribal community** who had to migrate to southern India after their defeat with Mughal kings.

Source: TH
