

The Sangam age is a period of history in ancient Tamil Nadu which was believed to be from the third century BCE to the third century CE. Excavations by the Archaeological Survey of India (ASI) and Tamil Nadu State Archaeology Department (TNSDA) in Keeladi has pushed the Sangam age further back. The unearthed Keeladi artefacts have led academics to describe the site as part of the Vaigai Valley Civilisation. The findings have also invited comparisons with the Indus Valley Civilisation while acknowledging the cultural gap of 1,000 years between the two places. The transfer of Superintending Archaeologist Amarnath Ramakrishna was perceived as an alleged attempt to play down the excavation findings. Tamil Nadu politicians criticised Union Government of trying to suppress information about an ancient Tamil civilisation that had flourished on the banks of the Vaigai river.

On February 19, Burkina Faso announced an official end to the operations led by France in the country. France was asked to withdraw its troops from Burkina Faso months after it pulled out its troops from Mali. The primary reason behind the withdrawal is the failure of its counter insurgency operations in the Sahel region against Islamist groups. Burkinabe Prime Minister Apollinaire Kyelem de Tabela termed Russia as “a reasonable choice” to continue counter insurgency efforts.

If the prevailing high temperatures continue through March, then the rabi wheat crop will be impacted and yields will at best be on a par, or even lesser marginally, than last year's low, warns a report. In Uttar Pradesh, which accounts for about 30% of wheat production, the eastern part is expected to have relatively good yields due to timely sowing after the kharif paddy harvest. But western U.P. may see a marginal decline due to late sowing if the high temperatures persist in March, research agency Crisil said.

Fossils of an extinct species of animal that scientists reported in a sensational discovery from India's Bhimbetka Rock Shelters in 2021 have been found to be belied hopes. Gregory Retallack, the lead author of the February 2021 paper that reported the discovery, has acknowledged to The New York Times that they are planning to correct their paper after a closer look at the site revealed the apparent fossil to really be wax smeared on a rock by a beehive. In March 2020, Dr. Retallack, a professor of palaeontology at the University of Oregon, and some other researchers were given a tour of the Bhimbetka Rock Shelters, in Madhya Pradesh, by members of the Geological Survey of India when they had flown to India to attend a conference.

India continues to remain a relative “bright spot” in the world economy, and will alone contribute 15% of the global growth in 2023, International Monetary Fund (IMF) Managing Director Kristalina Georgieva said. While digitisation pulled out the world's fifth largest economy from pandemic lows, prudent fiscal policy and significant financing for capital investments provided in the next year's

## INDIA'S FIRST HYBRID-SOUNDING ROCKET BY PRIVATE PLAYERS LAUNCHED FROM CHENGALPATTU, TAMIL NADU

1. Martin Foundation, in association with Dr. APJ Abdul Kalam International Foundation and Space Zone India, launched the Dr. APJ Abdul Kalam Satellite Launch Vehicle Mission- 2023. Rocket can be used for research in weather, atmospheric conditions, and radiations.
2. Sounding rockets are one or two stage solid propellant rockets used for probing upper atmospheric regions (Aeronomy) and for space research.
3. They can also be used to test or prove prototypes of new components or subsystems intended for use in launch vehicles and satellites. Sounding rockets take their name from the nautical term "to sound," which means to take measurements.
4. Hybrid-rocket uses different propellants, i.e., one solid and other being either gas or liquid. In 1963, Indian Space Programme started with first sounding rocket launch from Thumba Equatorial Rocket Launching Station (TERLS), Kerala.
5. Thumba was selected as it is close to magnetic equator. In 1967, ISRO launched its own version of sounding rockets - Rohini RH-75. In 1975, ISRO consolidated all sounding rocket activities under Rohini Sounding Rocket (RSR) Programme.
6. About Rohini RH- 200 RH-200 (meteorology purpose) is one of three sounding rockets currently operational with ISRO, the other two being RH-300 Mk 2 and RH-560 Mk 2 (both for Aeronomy). 200 in the name denotes rocket's diameter in millimeter (mm). RH-200 rocket used polyvinyl chloride (PVC) based propellant. In 2020, First RH-200 used a new propellant based on hydroxyl-terminated polybutadiene (HTPB).

## HEAT DOME OVER NORTH-WEST INDIA MAY START RETRACTING: INDIA METEOROLOGICAL DEPARTMENT (IMD)

1. Heat-spewing anticyclone over North-West India has led to unusual heat in February. IMD predicts that it is likely to recede from land and back off into Central Arabian Sea soon, making way for moisture-laden western disturbance and associated cloud cover with rain or snow in Western Himalayas and adjoining plains.
2. Heat dome is a high-pressure circulation in atmosphere which acts like a dome or cap, trapping heat at surface and favouring heatwave formation. It occurs when hot ocean air is trapped over a large area. Typically, heat domes are tied to the pattern of jet stream (fast winds high in atmosphere that generally runs west to east).
3. Normally, jet stream has a wavelike pattern, meandering north and then south and then north again. When these meanders in jet stream become bigger, they move slower and can become stationary and resulting into heat domes.
4. Hot air typically rises into atmosphere, but dome's lid causes air to sink. As air sinks, it compresses and becomes warmer that causes temperature in dome to rise continually. Impact of heat dome: Affect seasonal agricultural products; Increased risk of wildfire, heat-related illnesses such as heat rash, heat stroke, heat exhaustion etc.

## MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE (MOEFCC) SHARED DETAILS OF PROGRESS MADE UNDER EXTENDED PRODUCER RESPONSIBILITY (EPR) FOR PLASTIC PACKAGING

1. **Key details stated by MoEFCC**-2.26 million tonnes of plastic packaging have been covered under EPR for year 2022-23. Total plastic waste generated in country during year 2019-20 was around 3.4 million tonnes. Number of Producers, Importers and Brand Owners (PIBOs) registered on centralized EPR portal on plastic packaging has increased.
2. EPR is strategy used to promote reuse, recycling, and eco-friendly disposal of waste by assigning the responsibility of disposal of waste to manufacturer/producer of goods.
3. In India, EPR was introduced as an important feature in e-waste (Management and Handling) Rules, 2011, and Plastic Waste Management Rules, 2011. EPR shall be applicable to both pre-consumer and post-consumer plastic packaging waste.
4. **Benefits of EPR:** Promotes polluters pay principle by holding producer accountable for entire life cycle of product; reduce burden on government agencies; promote circular economy etc.
5. **Steps taken to tackle plastic waste**-MoEFCC's two pillars strategy: Enforcement of ban on identified single use plastic items, which cannot be collected; and Implementation of EPR on plastic packaging.

Budget will help sustain the growth momentum. “India’s performance has been quite impressive. For this year, we expect India to retain a high growth rate, 6.8% for the year that ends in March. For FY 2023/24, (April 2023 to March 2024) we project 6.1%, a bit of slowdown like the rest of the world economy, but way above the global average. And in that way, India is providing about 15% of global growth in 2023,” Ms. Georgieva said.

15 percentage, the decline in foreign direct investment (FDI) inflows into India to \$36.75 billion during the April-December period this fiscal, according to the latest Department for Promotion of Industry and Internal Trade data. The FDI inflows stood at \$43.17 billion during the year ago period. The FDI inflows include equity, reinvested earnings and other capital.

\$ 700 million, the loan approved by China for Pakistan, Finance Minister Ishaq Dar announced as the cash strapped country tries to avert a financial crisis. The announcement came a day after Pakistan’s National Assembly passed a money bill aimed at raising tax revenues to fulfil the demands set by the International Monetary Fund.

305 number of candidates nominated for the 2023 Nobel Peace Prize, the lowest number in four years. The names of the 212 individuals and 93 organisations were not released, in accordance with committee practice. Over the last eight years, the number of annual candidates had exceeded 300.

Partnering with India on climate change mitigation and energy transitions will be at the top of agenda during two big visits from Europe this weekend, as German Chancellor Olaf Scholz and the Danish Crown Prince travel to India for talks. Mr. Scholz’s visit, his first since he became Chancellor last year, will focus on environmental cooperation, as well as business and skilled labour migration. Germany’s Ambassador to India said that the visit will focus on geopolitical issues as well, with the year long Russian war in Ukraine, and difficulties in dealing with China at the forefront of discussions between Chancellor Scholz and Prime Minister Narendra Modi.

U.S. President Joe Biden met leaders of NATO’s eastern flank to show support for their security after Moscow suspended a landmark nuclear arms control treaty over Western support for Ukraine. Biden arrived in Warsaw on Monday ahead of the anniversary of Russia’s invasion of Ukraine on February 24.

National Level Taskforce constituted for effective implementation of Plastic Waste Management Rules, 2016. India Plastic Challenge Hackathon, 2021.

## INDIA, SINGAPORE LAUNCH UPI (UNIFIED PAYMENTS INTERFACE)-PAYNOW LINKAGE

- UPI-PayNow integration will enable people in both countries to send money real-time via QR-code based or simply by entering mobile numbers linked to bank account. With this, Singapore became the first country to allow cross-border Person to Person (P2P) payment facility. Earlier, at selected merchant outlets in Singapore, UPI payments through QR codes were made available.
- Significance of UPI-PayNow Linkage-Benefit Indian diaspora, especially migrant workers, and students by allowing faster and cost-efficient funds transfer. Enable users to transfer funds instantly without the need to get on board the other payment system. UPI is a real-time payment system developed by National Payments Corporation of India (NPCI) in 2016 which facilitates inter-bank financial transactions.
- UPI supports both P2P and Person-to-Merchant (P2M) payments. NPCI is an initiative of RBI and Indian Banks Association under Payment and Settlement Systems Act, 2007. It is an umbrella organization for operating retail payments and settlement systems in India. PayNow is a fast payment system in Singapore. It enables peer-to-peer funds transfer service, available to retail customers through participating banks and Non-Bank Financial Institutions (NFI) in Singapore.
- Related News-**RBI allowed UPI-based transactions to all in-bound travellers for local payments, starting from G-20 countries. Eligible travellers would be issued Prepaid Payment Instruments (PPI) wallets linked to UPI for making payments at merchant outlets. PPI Examples: Smart cards, Online accounts, Online wallets, Stripe cards, Paper vouchers, etc.

## NEGOTIATIONS ON UN HIGH SEAS TREATY BEGIN IN NEW YORK

- Negotiations aims to produce a unified agreement for conservation and sustainable use of vast marine ecosystems. Biodiversity beyond national jurisdiction (BBNJ) treaty, also known as Treaty of High seas is a proposed international agreement on conservation and sustainable use of marine biological diversity of High seas.
- Areas beyond national jurisdiction comprise 95% of ocean and provide invaluable ecological, economic, social, cultural, scientific, and food-security benefits. BBNJ will be another instrument under framework of United Convention on the Law of the Sea (UNCLOS), 1982.
- UNCLOS (India is also a state party) laid foundation of ocean governance, with first single set of rules for oceans and seas. Other instruments under UNCLOS: 1994 agreement on implementation of Part XI of UNCLOS and 1995 UN Fish Stocks Agreement.
- Need for BBNJ/ Treaty of High Seas-**Enforce UN Biodiversity Conference’s pledge to protect 30 percent of world’s oceans by 2030 i.e., Achieving 30x30 Goal. Only 1.44 percent of BBNJ areas/ high seas are protected. Highly vulnerable to impacts of climate change, marine pollution, overfishing etc.

## RHODODENDRONS

- As per Botanical Survey of India (BSI), Darjeeling and Sikkim Himalayas are home to more than one-third of all types of rhododendrons found in India. Rhododendron, meaning rose tree in Greek, is a genus of flowering plants.
- It is native to temperate regions of Asia, North America, and Europe. It is considered an indicator species for climate change.
- Habitat range:** Subtropical and temperate to subalpine and alpine ecosystems. Health benefits: Prevention and treatment of diseases associated with heart, dysentery, diarrhoea, etc.



“Success is a series of failures done with utmost regularity in the same direction.”

**DR. KHAN**  
(KSG)