

NEWSPAPER HIGHLIGHT

A new study by researchers from Duke University, North Carolina, U.S., draws attention to the plight of parasites living off the endangered primates. Half of the world's primates, roughly numbering 500 species, are in danger of extinction. In their model, 213 primates were linked in a complex web of interactions involving 763 worms, mites and other parasites known to infect them. Cutting enough of these links could trigger off a cascade of extinctions. Such cascades will be worse in isolated places like the Madagascar island.

Nutrition can alter mood swings and benefit people with bipolar disorder, according to a new study involving 80 participants and published in Bipolar Disorders. In clinical trials, the study found specific fatty acids stabilised mood variability in them. The researchers reduced omega6 fatty acids, found in red meat, eggs and some oils, and increased intake of omega3 fatty acids, found in flax seeds and fatty fishes like tuna, salmon. Follow up studies are needed to confirm that this is indeed effective.

IIT Bombay researchers have developed a "memory technology" that can, in principle, revolutionise Indian industry and the many applications that need semiconductor chips, such as in the defence sector, automobiles and future aspirations in cell phone manufacturing. Hard disks, flash memory, etc, are examples of memory technology. There is also another form of memory called the onetime programmable memory (OTP) where the memory is written once, stored for a lifetime, and retrieved and used many times. This finds varied uses, one of which is in correcting faulty chips that have been mass produced for specific applications.

Vampire bats, which inhabit warmer regions of Latin America and boast wingspans of about 18 cm, are the only mammals with a blood only diet. They reside in colonies of thousands. "Even besides their social lives, vampire bats are quite special: specializing in a diet of 100% blood is already quite rare among vertebrates. They have heat sensors in their snouts that help them find a spot to make a bite.

AYUSHMAN BHARAT PM-JAY

1.The world's largest healthcare scheme Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB-PMJAY) has completed three years. It was launched on September 23rd, 2018.

2.Key Features of PM-JAY-**The world's largest health insurance/ assurance scheme fully financed by the government. It provides cover of 5 lakhs per family per year, for secondary and tertiary care hospitalization across public and private empaneled hospitals in India.** Coverage: Over 10.74 crore poor and vulnerable entitled families (approximately 50 crore beneficiaries) are eligible for these benefits. Provides cashless access to health care services for the beneficiary at the point of service. The National Health Authority (NHA) is the nodal agency responsible for the nationwide roll-out and implementation of the AB-PMJAY scheme. This scheme is a Centrally sponsored scheme with some Central sector components.

3.Eligibility-No restrictions on family size, age or gender. All pre-existing conditions are covered from day one. Covers up to 3 days of pre-hospitalization and 15 days post-hospitalization expenses such as diagnostics and medicines. Benefits of the scheme are portable across the country.

4.As per the latest economic survey-**The Pradhan Mantri Jan Arogya Yojana (PM-JAY) contributed to improvement in many health outcomes in States that implemented the programme.** States that joined the PM-JAY, compared to those that did not, experienced greater penetration of health insurance, reduction in infant and child mortality rates, realised improved access and utilisation of family planning services and greater awareness of HIV/AIDS. Across all the States, the proportion of households with health insurance increased by 54% for States that implemented PM-JAY while falling by 10% in States that did not.

UN FOOD SYSTEMS SUMMIT

1.The UN Food Systems Summit is taking place in New York. It will seek to set the stage for global food systems transformation to achieve the Sustainable Development Goals by 2030.

2.**It is envisioned that the Summit will have objectives and outcomes including to: Raise awareness of food systems' centrality to the entire sustainable development agenda, and the urgency of transforming food systems,** particularly in the wake of a global pandemic. Align stakeholders around a common understanding and narrative of a food system framework as a foundation for concerted action, making food and food systems a more widespread issue for advocacy and action to achieve the 2030 Agenda. Recognize the need for inclusivity and innovation in food systems governance and action.

3.Motivate and empower stakeholders who support food systems transformation through the development of improved tools, measurement, and analysis. Catalyze, accelerate, and enlarge bold action for the transformation of food systems by all communities, including countries, cities, companies, civil society, citizens, and food producers.

4.Five action areas to help inform the transitions needed to realise the vision of the 2030 agenda have emerged from the Summit process. **These include: Nourish all people. Boost nature-based solutions. Advance equitable livelihoods, decent work and empowered communities.** Build resilience to vulnerabilities, shocks and stresses. Support means of implementation.

5.About the Summit-**The Food Systems Summit is convened as part of the Decade of Action to achieve the Sustainable Development Goals (SDGs) by 2030. The Summit will launch bold new actions to deliver progress on all 17 SDGs,** each of which relies to some degree on healthier, more sustainable and equitable food systems. Guided by five Action Tracks, the Summit will bring together key players from the worlds of science, business, policy, healthcare and academia, as well as farmers.

Water is essential for life, on Earth and other planets but Mars has no liquid water on its surface today. New research from Washington University in St. Louis suggests a fundamental reason: Mars may be just too small to hold on to large amounts of water. The study (Proceedings of the National Academy of Sciences) used stable isotopes of the element potassium to estimate the presence, distribution and abundance of volatile elements on different planetary bodies. Potassium is a moderately volatile element, but the scientists decided to use it as a tracer for more volatile compounds, such as water. The researchers found a well defined correlation between body size and potassium isotopic composition. The finding of the correlation of potassium isotopic compositions with planet gravity is a novel discovery with important quantitative implications for when and how the differentiated planets received and lost their volatiles.

For the first time since 2010, India is poised to see three consecutive Septembers with excess rainfall. Experts say that this is a sign of a change in monsoon patterns though it is too early yet to demonstrably prove that is a lasting consequence of global warming. As of September 24, monsoon rainfall for the month is nearly 19 cm. The normal for the entire month is 17 cm, and there is still a week's worth of rainfall to come. The monsoon normally starts to withdraw by the 1st of September and completely exits by October. In both 2019 and 2020, the monsoon began its withdrawal in October and the same is expected this year too. "Overall global warming is increasing moisture levels during the monsoon period but this is affecting the distribution of the rain. Monsoon patterns and concluded that the monthly variability of the summer rainfall was due to changing patterns of low pressure over the Indian landmass as well as fluctuations in moisture distribution.

Chancellor Angela Merkel urged Germans to give her would be successor Armin Laschet the vote to shape Germany's future, in a last-ditch push to shore up his beleaguered campaign ahead of Sunday's election.

The Hong Kong prodemocracy group that organised three decades of vigils commemorating the victims of Beijing's Tiananmen Square crackdown voted to disband on Saturday in the face of China's sweeping clampdown on dissent. The Hong Kong Alliance was one of the most prominent symbols of the city's former political plurality and its dissolution is the latest

SUNDARBANS THREATENED BY HUMAN ACTIVITIES

- 1.As per the latest findings, continuous loss of biodiversity is observed across the shorelines of settlement zones in Indian Sundarbans. Issues and challenges-Small patches of mangroves are being lost gradually and quietly due to their indiscriminate destruction for either coastal development or short-term gains. These patches are observed to be enriched habitats of several rare and threatened flora and fauna.
- 2.The continued loss of shoreline mangrove ecosystems has created fragmented and fragile mangrove habitats for rare taxa and framed barriers to their movement and dispersal. This irreversible loss of biodiversity is often neglected, which could never be compensated with any 'cut the established and plant the new' theory.
- 3.What can be done? **The Sunderbans are affected due to the polluted discharges from shrimp ponds. So, instead of popularising shrimp farming, if more indigenous fishing activities were encouraged, coastal threatened biodiversity** could be protected and at the same time livelihood options may be provided to the coastal dwellers.
- 4.About Indian Sundarbans: Covers 4,200 sq. km and includes the Sunderban Tiger Reserve of 2,585 sq. km — home to about 96 royal Bengal tigers (as per the last census in 2020). It is a world heritage site and a Ramsar site (a wetland site designated to be of international importance). It is also home to a large number of "rare and globally threatened species, such as the critically endangered northern river terrapin (Batagur baska), the endangered Irrawaddy dolphin (Orcaella brevirostris), and the vulnerable fishing cat (Prionailurus viverrinus)."
- 5.**Two of the world's four horseshoe crab species, and eight of India's 12 species of kingfisher are also found here.** Recent studies claim that the Indian Sundarban is home to 2,626 faunal species and 90% of the country's mangrove varieties.

CHANGE`E-5 PROBE

- 1.Early-stage findings of Chang'e-5 probe, which use geological mapping to link 'exotic' fragments in the collected samples to features near the landing site, were recently presented by China.
- 2.Background-Chinese spacecraft carrying rocks and soil from the moon had begun its journey back to Earth in December 2020, putting China on course to become the first country to successfully retrieve lunar samples since the 1970s.
- 3.Where was it landed? **The Chang'e-5 landing site is located on the western edge of the nearside of the Moon in the Northern Oceanus Procellarum.** This is one of the youngest geological areas of the Moon with an age of roughly two billion years. The materials scraped from the surface comprise a loose soil that results from the fragmentation and powdering of lunar rocks over billions of years due to impacts of various sizes.
- 4.Latest findings: **Ninety percent of the materials collected by Chang'e-5 likely derive from the landing site and its immediate surroundings, which are of a type termed 'mare basalts'.** These volcanic rocks are visible to us as the darker gray areas that spilled over much of the nearside of the Moon as ancient eruptions of lava. Yet ten percent of the fragments have distinctly different, 'exotic' chemical compositions, and may preserve records of other parts of the lunar surface as well as hints of the types of space rocks that have impacted the Moon's surface.
- 5.About Chang'e-5 probe: **It is an unmanned spacecraft by China. The probe is named after the mythical Chinese moon goddess.** The rocket comprises four parts: an orbiter, a returner, an ascender and a lander.

UNLAWFUL ACTIVITIES(PREVENTION) ACT

- 1.The Office of High Commissioner of Human Rights, United Nations, has expressed its concerns over the ongoing use of the Unlawful Activities (Prevention) Act throughout India and has called the situation as 'worrying.
- 2.What's the issue? **Referring to the state of Jammu & Kashmir, the United Nations High Commissioner for Human Rights has remarked that the state has the highest number of cases registered under Unlawful Activities (Prevention) Act [UAPA] across the Country.** It also flagged concerns regarding the cases of Journalists who are under detention "for exercising their right to the freedom of expression".However, it does

illustration of how quickly China is remoulding the business hub in its own authoritarian image.

Friday's Quad summit of the leaders of India, Australia, Japan and the U.S. in Washington saw the four countries for the first time outline joint principles on technology, underlining their ambition to work more closely together in developing common standards in particularly critical technologies of the future. While China did not find explicit mention in any of the Quad statements, its presence still loomed large in many of the outcomes, including in the first Quad "Principles on Technology Design, Development, Governance, and Use" document which said the four countries would ensure that technology "should be shaped by our shared democratic values and respect for universal human rights".

acknowledge the Government's efforts to counter terrorism and promote development in the region (J&K), but also cautioned that such restrictive measures can result in human rights violations and foster further tensions and discontent.

3. About the Unlawful Activities (Prevention) Act-Passed in 1967, the law aims at effective prevention of unlawful activities associations in India. The Act assigns absolute power to the central government, by way of which if the Centre deems an activity as unlawful then it may, by way of an Official Gazette, declare it so. It has death penalty and life imprisonment as highest punishments.

4. Key points-Under UAPA, both Indian and foreign nationals can be charged. It will be applicable to the offenders in the same manner, even if crime is committed on a foreign land, outside India. Under the UAPA, the investigating agency can file a charge sheet in maximum 180 days after the arrests and the duration can be extended further after intimating the court.

5. As per amendments of 2019: **The Act empowers the Director General of National Investigation Agency (NIA) to grant approval of seizure or attachment of property when the case is investigated by the said agency.** The Act empowers the officers of the NIA, of the rank of Inspector or above, to investigate cases of terrorism in addition to those conducted by the DSP or ACP or above rank officer in the state. It also included the provision of designating an individual as a terrorist.