

NEWSPAPER HIGHLIGHT

Studying data from more than 9,000 soil samples from over the world, scientists deduced that carbon storage declines strongly as temperature averages increase, giving a boost to global warming. The study, published in Nature Communications found also that the amount of carbon being released depends on soil type, with low-clay soils losing three times as much carbon as clay-rich soils.

A Reserve Bank of India (RBI) Working Group (WG) on digital lending, including lending through online platforms and mobile apps, has stumbled upon more than 600 illegal loan apps operating in India. These apps, mostly used to dupe unsuspecting people, are available on several app stores for Android users in the country, the WG said in a report. In course of its filed work to prepare a detailed report on digital lending and to suggest recommendations, the WG found out the existence of over 1,100 unique loan apps that could be searched through key words such as loan, instant loan and quick loan. These apps were available across 81 app stores from January 01, 2021 to February 28,2021, it stated. The RBI panel pointed out that Sachet, a portal established by the Reserve Bank under State Level Coordination Committee (SLCC) mechanism for registering complaints by public, has been receiving significantly increasing number of complaints against digital lending apps.

The thickness of growth marks in primary teeth may help identify children who develop risks of mental health issues later in life, according to a new study. This is much like the rings in a tree reveal the climate of the past. The study finds that the sources of physical stress can affect dental enamel formation, giving pronounced growth lines in the teeth. The research was published in JAMA Network Open.

A statement by the Social Justice and Empowerment Ministry in the Lok Sabha, which was reported in The Hindu, conveyed that in the five years till December 31, 2020, there have been 340 deaths due to manual scavenging in sewers and septic tanks in 19 States and Union Territories, with Uttar Pradesh (52), Tamil Nadu (43) and Delhi (36) leading the list. Maharashtra had 34 and Gujarat and Haryana had 31

INTEGRATED FARMING PRACTICES IN INDIA

1.A new study on integrated farming has found that the following 4 methods are worth following in India. This work found that Relay planting enhances yield, Strip rotation (Within-field rotation) was more fruitful, Soil munching and No-till or a reduced tillage, when compared with traditional monoculture cropping, Increases the annual crop yield up by 15.6% to 49.9%, and Decreases the environmental footprint by 17.3%. While these methods are not easy for small farmers in India, they could be practised at least in larger farms.

2.Relay Planting-Relay planting means the planting of different crops in the same plot, one right after another, in the same season. Second crop is planted into an established stand of a main crop. Second crop develops fully after the main crop is harvested. Examples - Planting rice and summer gourd in the same season. If this method is followed, there is less risk since you do not have to depend on one crop alone. It also means better distribution of labour, insects spread less, and any legumes actually add nitrogen to the soil. However, the difficulties involved in relay cropping are difficulty in mechanisation, and higher requirements for management.

3.Strip Cropping-It is a practice of growing field crops in narrow strips either at right angles to the direction of the prevailing wind, or following the natural contours of the terrain to prevent soil erosion by wind and water. It involves planting crops in strips across the slope, with alternate strips of grain and/or forage crops. It is used when a slope is too steep or too long, or otherwise, when one does not have an alternative method of preventing soil erosion.

4.It is more effective in reducing soil losses, as it combines, Soil & moisture conserving properties of cross-slope farming with Soil building advantages of a crop rotation. Strip cropping has been used in the U.S. (where the fields are larger than those in India), where they grow wheat, along with corn and soyabean, in the same farm in an alternative manner. However, this needs large lands. In India, it is used in the large fields such as the ones owned by cities and state governments.

5.Soil Mulching-Soil mulching is the application of a layer of material (mulch) to the surface of an area of soil. It requires keeping all bare soil covered with straw, leaves, and the like, even when the land is in use. As mulch prevents rain from hitting the soil directly, the impact of the water drops is reduced. Erosion is curtailed, moisture retained, and beneficial organisms, such as earthworms, kept in place. Mulching adds organic matter to the soil. Mulch decreases water loss due to evaporation. The same set of benefits is also offered by not tilling the soil.

6.No-till Farming-No-till farming (or zero tillage or direct drilling) is a technique for growing crops or pasture without disturbing the soil through tillage. In this, not only the soil is left undisturbed by tillage and but also the residue is left on the soil surface. In zero tillage, herbicide functions are extended. Before sowing, the vegetation present has to be destroyed for which broad spectrum, non-selective herbicides with relatively short residual effect are used.

RADIO STAR

1.National Centre for Radio Astrophysics (NCRA-TIFR) astronomers have used the upgraded Giant Metrewave Radio Telescope (uGMRT) to discover 8 stars belonging to a rare category 'Main-sequence Radio Pulse' (MRPs) emitters.

2.Radio Stars or stellar radio sources or radio source stars are celestial objects, such as a supernova remnant or quasar, which emit radio waves. MRPs are radio stars hotter than Sun with magnetic fields stronger than stellar wind (a continuous flow of gas from a star's upper atmosphere).

3.Due to this, they emit bright radio pulses like a lighthouse. They are probably more common, but are difficult to detect as the radio pulses are visible only at certain times and the phenomenon is mostly observable at low radio frequencies.

4.Magnetic field and temperature are two quantities that appear

each, according to the statement. This is despite bans and prohibitory orders. A group from Mechanical Engineering Department and Center for Non Destructive Testing (CNDE) of IIT Madras has developed a robot that can, if deployed extensively, put an end to this practice of sending people into septic tanks. The robot, named HomoSEP ("homogeniser of septic tanks") has taken the group about three years to develop.

Researchers from the Georgia Institute of Technology studied the physics of a finger snap and determined how friction plays a critical role. Using an intermediate amount of friction, not too high and not too low, a snap of the finger produces the highest rotational accelerations observed in humans, even faster than the arm of a professional baseball pitcher (Journal of the Royal Society Interface). Using high speed imaging, automated image processing, and dynamic force sensors, the researchers analysed a variety of finger snaps. According to a press release, the researchers explored the role of friction by covering fingers with different materials. For an ordinary snap with bare fingers, the researchers measured maximal rotational velocities of 7,800 degrees per second and rotational accelerations of 1.6 million degrees per second squared. The rotational velocity is less than that measured for the fastest rotational motions observed in humans, which come from the arms of professional baseball players during the act of pitching. However, the snap acceleration is the fastest human angular acceleration yet measured, almost three times faster than the rotational acceleration of a professional baseball pitcher's arm.

The buildup of Russian troops near Ukraine has left U.S. officials perplexed, muddying the Biden administration's response. Some Republican lawmakers have been pressing the U.S. to step up military support for Ukraine. But that risks turning what may be mere muscle-flexing by Russian President Vladimir Putin into a full blown confrontation that only adds to the peril for Ukraine and could trigger an energy crisis in Europe. But a weak U.S. response carries its own risks. It could embolden Mr. Putin to take more aggressive steps against Ukraine as fears grow he could try to seize more of its territory. And it could cause more political damage for President Joe Biden at a time his popularity is dropping.

The United States warned on Saturday it was capable of deploying "overwhelming force" in West Asia as it faced questions about its willingness to use its military power

to play the major role in deciding how intense the radio pulse will be.

PROCESS FOR REPEALING A LAW

1. Prime Minister announced that the process of repealing the three contentious farm laws will take place in the upcoming Winter Session of Parliament. Repealing a law is one of the ways to nullify a law. A law is reversed when Parliament thinks there is no longer a need for the law to exist. Sometimes, legislation can also have a "sunset" clause, a particular date after which they cease to exist. For laws that do not have a sunset clause, Parliament has to pass another legislation to repeal the law.
2. **Article 245 of the Constitution gives Parliament the power to make laws for the whole or any part of India, and State legislatures the power to make laws for the state.** For repeal, the power of Parliament is the same as enacting a law under the Constitution (Article 245) A law can be repealed either in its entirety, in part, or even just to the extent that it is in contravention of other laws. Two Ways - Laws can be repealed in two ways through Ordinance, or Legislation. Ordinance - In case an ordinance is used, it would need to be replaced by a law passed by Parliament within 6 months.
3. If the ordinance lapses because it is not approved by Parliament, the repealed law can be revived. Legislation - The government can also bring legislation to repeal the laws. The Repealing and Amending (Amendment) Bills are introduced for this purpose. It will have to be passed by both Houses of Parliament, and receive the President's assent before it comes into effect. When a repeal bill is passed, it is also a law. All three farm laws can be repealed through a single legislation.

CRISP-M FOR MGNREGA

1. Ministry of Rural Development reaches an important milestone with the completion of Geographical Information System (GIS) plans for around 75% Gram Panchayats (GPs) under Mahatma Gandhi NREGA.
2. Climate Resilience Information System and Planning (CRISP-M) tool will integrate this GIS-based planning data with the climate data.
3. This tool was developed jointly by the Ministry of Rural Development and the British Government.
4. **CRISP-M will enable the local communities to understand the impact of changing climate in terms of various geophysical parameters and make smart decisions on them.** This is initially proposed to be taken up in 7 states and will be expanded later to all other states as well.

OP SANKALP

1. INS Trikand is currently deployed in the Persian Gulf and Gulf of Oman as part of Operation Sankalp.
2. **Operation Sankalp was started in June 2019 after there were explosions on board two oil tanker ships in the Gulf of Oman amid increased tensions between Iran and the U.S.**
3. It is the Indian Navy's effort to maintain a frontline ship in the region to ensure safe and secure movement of trade, instill confidence in the maritime community and contribute to regional maritime security.

PESA ACT

1. One Day National Conference was organized on the Provisions of the Panchayats (Extension to the Scheduled Areas) Act, 1996 (PESA) to celebrate 25th year of PESA Act, as part of Azadi Ka Amrit Mahotsav. About the PESA Act, 1996: The Panchayats (Extension to Scheduled Areas) Act, 1996 or PESA Act is a law enacted by the Government of India for ensuring self-governance through traditional Gram Sabhas for people living in the Scheduled Areas of India. It was enacted by Parliament in 1996 and came into force on 24th December 1996. The PESA is considered to be the backbone of tribal legislation in India. PESA recognises the traditional system of the decision-making process and stands for the peoples' self-governance.
2. **Issues Related to PESA:** The state governments are supposed to enact state laws for their Scheduled Areas in consonance with this national law. This has resulted in the partially implemented PESA. The partial implementation has worsened self-governance in Adivasi areas, like in Jharkhand.
3. Many experts have asserted that PESA did not deliver due to the lack of clarity, legal infirmity, bureaucratic apathy, absence of a political will, resistance to change in the hierarchy of power,

in the region. Defense Secretary Lloyd Austin told the Manama Dialogue in Bahrain's capital that all options would be open if diplomacy fails to halt Iran's nuclear programme, but he was also forced to rebut claims the U.S. has become reluctant to use force.

A disability rights activist and advocate has moved the Supreme Court to direct the Government to provide sign language interpreters during briefings of Heads of States, Ministers and officials. Advocate M. Karpagam, a disabled lawyer practising at the Madras High Court, said disabled people have an equal right to information and communication. They should be able to learn the news on their own to analyse and take their own decisions based on the information.

New Delhi has a new group to negotiate with for a solution to the seven decades old "Naga political problem". Some leaders of the National Socialist Council of Nagaland (Reformation) led by Akato Chopi have formed a breakaway group by the same name. The split has been attributed to a power struggle within the outfit. There are more than a dozen extremist groups. All except the Yung Aung faction of the NSCN are in peace mode following ceasefire agreements with the Centre since 1997, beginning with the NSCN (Isak Muivah).

and so on.

4.As per Social audits conducted across the state, In reality different developmental schemes were being approved on paper by Gram Sabha, without actually having any meeting for discussion and decision making.