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15th to 21st April 2023

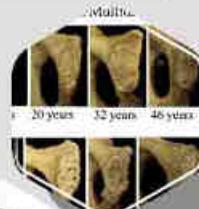
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EXAMS

- Starship's First Uncrewed Flight Test
- NCPNR's Guidelines for Conducting Preliminary Assessment for
- Age Determination
- Water Footprint of Large AI Models
- Ambedkar Circuit Tourist Train
- Maharashtra Bhushan Award
- Thales Data Threat Report 2023



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Current Affairs 15 April to 21 April 2023

Brief:-

- Starship's First Uncrewed Flight Test
- NCPCCR's Guidelines for Conducting Preliminary Assessment for
- Age Determination
- Uttaramerur Inscription
- Buzi Bridge in Mozambique
- Pohela Boishakh (Bengali New Year)
- Water Footprint of Large AI Models
- Vegetable Production System (Veggie)
- What is CL-Flam?
- Ambedkar Circuit Tourist Train
- Banking on Climate Chaos Report
- Army Commanders' Conference
- Epstein-Barr Virus and Associated Ailments
- National Panchayat Awards Week
- National Conferences
- Maharashtra Bhushan Award
- Appasaheb Dharmadhikari: A Philanthropic Leader
- What is Cheiraoba?
- Visiting the Nearest Hillocks
- NIMHANS-AHT Comprehensive Mental-Health Action Program for
- Authority Holding Sealed Particulars
- Aim of the reforms
- Ningaloo Eclipse
- What is Civil Union?
- National Health Claims Exchange (HCX)-Sandbox
- Animal Birth Control Rules, 2023
- World Heritage Day
- Hun-Thadou Cultural Festival
- Global Food Policy Report, 2023
- Miguel Diaz-Canel
- Type 2 Diabetes and COVID-19
- State of World Population Report
- National Quantum Mission
- Thales Data Threat Report 2023
- Tea Mosquito Bug Infestation
- Shawwal Moon
- The Status of Women in Agrifood Systems Report





Starship's First Uncrewed Flight Test

SpaceX, the private space exploration company founded by Elon Musk, is set to launch its Starship rocket from its facility in South Texas. The Starship rocket is the most powerful rocket ever constructed, generating nearly 16.5 million pounds of thrust at liftoff. The inaugural launch of the Starship rocket is scheduled to take place on April 17.

The Starship rocket, consisting of a Super Heavy booster and a Starship spacecraft, is designed to be fully reusable. The Super Heavy booster houses 33 next-generation Raptor engines, while the Starship spacecraft has six Raptor engines. The upcoming test flight will involve a Super Heavy prototype called Booster 7 and the Ship 24 upper-stage variant.

FAA Approval for Uncrewed Flight Test

The Federal Aviation Administration (FAA) has granted SpaceX's request for an uncrewed flight test of the Starship rocket. The regulatory body has also issued a restriction in the launch area to ensure the safety of air traffic. SpaceX had to wait for more than a year to get FAA approval for an orbital launch attempt. Government personnel will be on the ground to ensure the private space company complies with its license during the test launch.

SpaceX's Starship rocket is part of NASA's Artemis program, which has awarded SpaceX contracts and options worth more than \$3 billion. The company believes that the Starship rocket, which stands 400 feet (120 meters) tall when fully stacked, will make the settlement of the moon and Mars economically feasible.

Inaugural Flight Test Details

During the inaugural flight test, Starship is expected to travel about 150 miles above Earth's surface. If all goes according to plan, Booster 7 will splash down in the Gulf of Mexico, while Ship 24 will keep flying, conducting a partial lap of Earth before coming down in the Pacific Ocean near Hawaii. SpaceX plans to recover the rocket booster in future flights by guiding it to an upright landing back at the launch site.

NCPCR's Guidelines for Conducting Preliminary Assessment for

The National Commission for Protection of Child Rights (NCPCR) has issued guidelines for the first time for conducting a preliminary assessment to determine whether a child should be treated as a minor or not in criminal cases which come under the "heinous" offences category of the Juvenile Justice (Care and Protection of Children) Act, 2015.

Juvenile Justice (Care and Protection of Children) Act, 2015

Under the Juvenile Justice (Care and Protection of Children) Act, 2015, a child is defined as an individual who has not completed 18 years of age. However, there is a specific provision under which initiation of an inquiry into a heinous crime has been differentiated based on the age of the child. According to Section 15(1) of the Act, in case of a heinous offence alleged to have been committed by a child "who has completed or is above" the age of 16, the Juvenile Justice Board (JJB) "shall conduct a preliminary assessment with regard to his mental and physical capacity to commit such offence, ability to understand the consequences of the offence and the circumstances in which he allegedly committed the offence". The Board may then pass an order that there is a need for trial of the child as an adult.

Responsibility of Juvenile Justice Board (JJB)





The Juvenile Justice Board (JJB) is solely responsible for conducting preliminary assessment, which it must complete within three months from the date of first production of the child before it. In case the Board determines that there is a need for a trial of the child as an adult, it will then transfer the case to the Children's Court.

Age Determination

To determine the offender's age, the JJ Board would either obtain the date of birth certificate from the school or the matriculation or equivalent certificate from the concerned examination Board in the absence of the birth certificate given by a civic body. Only in cases where neither of the two are available, "age shall be determined by an ossification test or any other latest medical age determination test" conducted on the orders of the JJ Board, say the guidelines.

Categories of Criminal Cases Involving Children

The amendment passed in 2021 by Parliament defines three categories of criminal cases involving children in conflict with law. They are "heinous offences," which include crimes for which the minimum punishment is imprisonment for 7 years or more; "petty offences," which includes crimes for which the maximum punishment is imprisonment up to three years; and "serious offences," which includes crimes for which the punishment is a minimum imprisonment for a term more than 3 years and not exceeding 7 years.

Two Essential Conditions for Preliminary Assessment

The sole aim of preliminary assessment is to determine whether the child in the age of 16-18 years should be tried as an adult in case of heinous offence. There are two essential conditions that call for preliminary assessment. First, the offence is in the category of "heinous" as defined in the Act. Second, the child who has allegedly committed the crime is in the age group of 16-18 years.

Uttaramerur Inscription

Prime Minister Narendra Modi, on April 14, mentioned an inscription from Uttaramerur in Kanchipuram, Tamil Nadu, while discussing India's democratic history. Uttaramerur has several inscriptions dating back centuries. The one referred by the Prime Minister was created during the reign of Parantaka I (907-953 AD).

Uttaramerur is known for its historic temples built during the Pallava and Chola rule. The inscription mentioned by Modi is found on the Vaikunda Perumal Temple's walls. It dates back to the ninth century CE and is an invaluable source of information about the functioning of the village assembly. The inscription is significant because it provides insight into the governance structure of that era, which was characterized by decentralization of power.

Details of the Inscription

The inscription describes the functioning of the local sabha, i.e., the village assembly. It mentions the qualifications for being a representative to the sabha, which includes ownership of a certain amount of land, having a house, being between the age of 35 and 70, and knowing mantras and Brahmanas. On the other hand, certain factors disqualify a person from consideration, such as not having submitted accounts while previously serving in a committee, committing any of the first four of the five 'great sins,' being associated with outcastes, and eating 'forbidden' dishes.





The representative is chosen for the village assembly through an elaborate draw of lots conducted by priests. Once elected, the member serves on important committees within the sabha, such as the garden committee, the tank committee, the annual committee, the committee for supervision of justice, the gold committee, and the five-fold committee. The committee assignments last for 360 days, and any committee member implicated in any wrongdoing is removed instantly.

Buzi Bridge in Mozambique

The Buzi Bridge in Mozambique was virtually inaugurated by External Affairs Minister Dr S. Jaishankar. It has been built by India as part of the 132 km Tica-Buzi-Nova-Sofala Road project. This newly constructed bridge is a practical example of India-Mozambique solidarity and friendship.

Buzi Bridge: India's contribution to Mozambique

The Buzi Bridge is a significant project that showcases India's commitment to Mozambique's infrastructure development. India has been a reliable partner in Mozambique's growth story, and this bridge is yet another example of India's contribution to the country's development.

The journey by train from Maputo to Machava During his visit, Dr Jaishankar took a ride in a Made in India train from Maputo to Machava with Mr Magala, and CMD of Rail India Technical and Economic Service RITES Rahul Mithal joined them on the journey. This journey highlights the significance of India's contribution to Mozambique's rail infrastructure development.

Dr Jaishankar met with President of Assembly Esperança Bias. During their meeting, they discussed the historic cooperation between India and Mozambique. The Indian side reiterated its support for Mozambique's sustainable development. The focus of the meeting included counter-terrorism and disaster resilience.

The External Affairs Minister also had talks with Mozambican Minister of Transport and Communication and Chairman, Mozambican Port and Rail Authority Mateus Magala regarding expanding train networks, electric mobility, and waterways connectivity. He emphasized that India is a reliable partner in this regard.

Pohela Boishakh (Bengali New Year)

Pohela Boishakh is a cultural festival celebrated in Bangladesh and the Bengali-speaking Indian states like West Bengal. Also known as Bengali New Year, this festival is a time for people to come together and celebrate their traditions and values while reflecting on the past year and making plans for the future.

The origins of Pohela Boishakh can be traced back to the Mughal Empire, where it was celebrated as a harvest festival. It was a way to thank the gods for a bountiful harvest and pray for a prosperous year ahead. During the Bengali Renaissance in the late 19th and early 20th centuries, cultural icons like Rabindranath Tagore and Kazi Nazrul Islam incorporated Pohela Boishakh into their works, making it more significant. Today, it is celebrated as a symbol of Bengali cultural identity and a reminder of the region's rich cultural heritage.

Significance of Pohela Boishakh

Pohela Boishakh is an important festival that celebrates and promotes Bengali culture and heritage. It brings people together in a spirit of unity and community and promotes harmony, regardless of their religion or background.

Celebrations of Pohela Boishakh





Pohela Boishakh is celebrated on the first day of the Bengali calendar, which usually falls on April 14 but this year will be celebrated on April 15. The day is marked with colorful parades, traditional music and dance performances, and various cultural programs. The occasion is celebrated by wearing traditional attires, eating traditional delicacies and exchanging greetings, wishing peace and prosperity in the coming year.

Water Footprint of Large AI Models

Artificial Intelligence (AI) has revolutionized the world by providing unprecedented benefits to industries ranging from healthcare to finance. However, a recent study by the University of Colorado Riverside and University of Texas at Arlington, titled “Making AI Less Thirsty,” sheds light on an aspect of AI that has remained under the radar – its water footprint.

Measuring the “water footprint” of AI models

The study aims to measure the “water footprint” of large AI models like OpenAI’s ChatGPT. It found that the water consumed to run ChatGPT, which is used by billions of users worldwide, is “extremely large.” The study highlights the importance of addressing water footprint of AI models in order to address global water crisis.

The study distinguishes between “withdrawal” and “consumption.” Withdrawal refers to the physical extraction of water from rivers, lakes, and other sources, while consumption relates to the water loss due to evaporation when used in data centers. According to the recent study, the conversation comprising 20-50 questions with the AI chatbot in a single system may consume a “500 ml bottle of water.”

Water usage concentration

According to the researchers, when addressing consumption in this context, “water cannot be recycled,” which is where most of the AI’s water usage is concentrated. The water consumed also refers to clean freshwater used for generating electricity as well as for cooling servers to run AI models. The study claims that while training GPT-3 alone, Microsoft may have consumed a staggering 700,000 liters of water, which is the same amount used to make 370 BMW cars.

Water use in less energy-efficient data centers

The study highlights that if the data had been generated in the tech giants’ less energy-efficient data centers in Asia, water use may have increased threefold. The number is predicted to surge with the newly-launched GPT-4 AI system since it has a larger model size.

Vegetable Production System (Veggie)

On April 15, 2023, SpaceX’s commercial resupply services will transport tomatoes grown on the Vegetable Production System (Veggie) aboard the International Space Station (ISS) back to Earth. These tomatoes were grown as part of the Veg-05 experiment, which probed the impact of light quality and fertiliser on fruit production, microbiological safety, and nutritional value. The aim of the Veggie system on the ISS is to develop a ‘pick-and-eat’ fresh vegetable component to food on the space station, in order to bring fresh produce in the astronauts’ diet.

The Veggie system is a plant growth unit aboard the ISS. Salad plants such as leafy greens and dwarf tomatoes were cultivated in the Veggie chambers, with each crop grown under two different LED lighting setups. They were grown using plant “pillows” – sacks with a wicking surface filled with soilless substrate and fertiliser. The





crops were nurtured by the crew for 104 days, who opened wicks to assist seedlings sprout, provided water, thinned the seedlings, pollinated them, and kept an eye on their health and development.

The Benefits of Fresh Produce in Space

The degradation of vitamins and quality of packaged food over time is a significant challenge for long-duration missions into deep space. To solve this problem, growing a supplemental food crop is a solution. The goal of this study is to establish horticulture standards to obtain high yields of secure, nutritious dwarf tomato fruit to augment a space diet of pre-packaged food. By providing fresh produce to astronauts on long-duration missions, NASA is working towards enhancing the nutritional value of their diet and, in turn, their overall health and well-being.

What is CL-Flam?

IIT Indore, NASA-Caltech, and Sweden's University of Gothenburg have collaborated to develop a low-cost camera setup called CL-Flam, which can revolutionize scientific imaging. This device has the capability of capturing multispectral images of four chemical species in a flame using a single DSLR camera, unlike the previous complex system that required four cameras. Now, the international team is looking to explore the device's applications in biomedical imaging, ultrafast imaging, multidimensional, and other advanced studies.

The primary objective of this research was to study the combustion of fuels and improve the efficiency of engines and burners while reducing carbon emissions. The elements released due to fuel combustions in industrial burners and engines can be studied by analysing the images captured by the CL-Flam device. Such analyses will help companies make necessary improvements in engines and burners to ensure optimum and environment-friendly use of fuels during combustion.

Methodology

The structured illumination method has been used by the researchers to achieve the simultaneous imaging of multiple species. It enables imaging of low-intensity species like CH* using a DSLR camera, which typically requires intensified CCD cameras.

Market Launch

The smart camera will be launched in the market through a start-up, providing a low-cost, effective, and environmentally friendly solution for combustion analysis. The device will be beneficial to industries dealing with fuel combustion and emissions.

Ambedkar Circuit Tourist Train

The Indian government recently launched the Ambedkar circuit tourist train under the Dekho Apna Desh initiative, aimed at promoting domestic tourism in the country. This eight-day special tour covers eight significant places associated with Ambedkar i.e., New Delhi, Mhow, Nagpur, Sanchi, Sarnath, Gaya, Rajgir, and Nalanda. The train is a joint initiative of the Ministries of Tourism and Railways, aimed at attracting not only the wider tourist base but also the Dalit community.

The flag-off ceremony of the Bharat Gaurav Tourist train was held on April 14, 2023, at the Nizamuddin Railway Station in Delhi. The train was flagged off by the Union Minister for Culture and Tourism, G. Kishan Reddy.

Significance of Deekshabhoomi in Nagpur





One of the most significant places in the Ambedkar circuit covered by the Bharat Gaurav Tourist train is Deekshabhoomi in Nagpur. It is a sacred monument of Navayana Buddhism where Dr. B.R. Ambedkar embraced Buddhism with approximately 6 lakh of his followers, mainly scheduled caste people, on Ashoka Vijaya Dashami on October 14, 1956. Deekshabhoomi is regarded as a sacred place, a preparation for social actions against class conflicts, discrimination, and inequality, and the first pilgrimage center of Ambedkarite Buddhism in India. Millions of pilgrims visit Deekshabhoomi every year.

Facilities Available in the Tourist Train

The Bharat Gaurav Tourist train is equipped with various facilities to make the journey comfortable and memorable for tourists. It has a well-equipped pantry to cater to the dietary needs of passengers. The train also has an infotainment system that provides information about the places covered in the tour. Additionally, CCTV cameras have been installed in the train for the safety and security of passengers.

Banking on Climate Chaos Report

On April 12, 2023, environmental organizations released the “Banking on Climate Chaos” report, which details the world’s largest banks’ spending on fossil fuel project financing since the Paris Agreement. The report reveals some shocking figures and highlights the urgent need to shift towards sustainable financing.

Highlights of the Report

- World's 60 largest banks have spent a staggering \$5.5 trillion or Rs 4,49,36,265 crore on financing fossil fuel projects since the Paris Agreement was signed in 2016. This figure alone demonstrates the scale of the issue at hand and highlights the need for swift action.
- United States was the top financier of fossil fuels, providing 28% of total financing in the fossil fuel sector in 2022.
- Ten banks that had the highest spending on fossil fuels from 2016-2022 include JPMorgan Chase & Co, Citibank NA, Wells Fargo & Company, Bank of America Corporation, and others.
- As much as \$673 billion was spent on fossil fuel financing in just 2022, emphasizing the urgency of the situation.
- BNP Paribas, which lent the highest amount in Europe, is financed \$20.8 billion worth of fossil fuel entities in 2022.
- Canada and Japan were the top financiers for fossil fuels from 2020-2022, revealing the need for these countries to take bold action to shift towards renewable energy sources.
- G7 countries provided \$73 billion in public finance for fossil fuels from 2020-2022, which calls into question their commitment to the Paris Agreement.
- Danske Bank decided in 2023 to end fossil fuel refinancing of old oil and gas exploration and production projects and new long term financing for the same, especially for companies that lack a credible transition plan based on the Paris Agreement.

Army Commanders' Conference

The Indian Army conducts the Army Commanders' Conference (ACC) biannually to discuss critical matters related to security and other related aspects. The first edition of the ACC for the year 2023 is being organized from April 17 to 21. The conference will be conducted in a hybrid format, taking advantage of available technology to ensure secure communication. Army Commanders and other senior functionaries attended the





conference virtually on the first day. It is followed by physical meetings in Delhi to balance detailed deliberations on matters.

The first day of the conference included discussions on agenda points sponsored by various Command Headquarters. This will be followed by an update from Commander-in-Chief Andaman and Nicobar Command and sessions by Principal Staff Officers of the Army Headquarters. The conference will also review the progress made on the activities charted out as part of 'Year of Transformation-2023.' Additionally, advancements on Agnipath scheme, digitisation and automation initiatives, Combat Engineers tasks, work aspects, and budget management will also be discussed.

Security and Operational Preparedness

Apart from the review of the Army's progress, the apex leadership of the Army will brainstorm on the current and emerging security scenarios. The operational preparedness of the force will also be reviewed during the conference.

Equipment Display and Talks

Defence Minister Rajnath Singh is expected to address the biennial conference on 19th April. During his speech, he will also review an equipment display focusing on niche technology, innovation, solutions for surveillance, Artificial Intelligence, training, robotics, virtual reality, and operational logistics. The conference will also feature a talk on future contours of India-China relations by Vijay Gokhale, former Foreign Secretary. Vijay Gokhale is a renowned diplomat and has a deep understanding of India's foreign policy.

Epstein-Barr Virus and Associated Ailments

Epstein-Barr virus (EBV), also known as human herpesvirus 4, is a highly contagious virus that belongs to the herpesvirus family. It is one of the most common human viruses worldwide, affecting more than 90% of the world's population. EBV is known to cause infectious mononucleosis, also known as mono, and is primarily transmitted through saliva.

Transmission and Symptoms of EBV Infection

EBV infection is primarily spread through saliva, but it can also be transmitted through genital secretions during sexual activity or through blood transfusions or organ transplants. Most people infected with EBV do not develop symptoms or only experience mild symptoms that are easily mistaken for other viral illnesses. However, some people may experience symptoms such as fatigue, fever, sore throat, swollen lymph nodes, and enlarged spleen.

EBV and Cancer

In some cases, EBV infection can lead to cancer. The virus can go dormant after the initial infection and reactivate later, leading to long-lasting latent infections that are associated with a number of cancers, including Hodgkin's lymphoma, Burkitt's lymphoma, nasopharyngeal carcinoma, and gastric cancer. Researchers at the University of California San Diego discovered how EBV can trigger cancer by inducing cleavage in human chromosome 11. Researchers found that cancer tumors with detectable EBV had higher levels of chromosome 11 abnormalities. These abnormalities are caused when a viral protein called EBNA1 binds to a site on chromosome 11 to cause breakage.

EBV and Autoimmune Diseases





There is some evidence that EBV infection is associated with a higher risk of developing certain autoimmune diseases, including dermatomyositis, systemic lupus erythematosus, rheumatoid arthritis, and Sjögren's syndrome. However, the exact relationship between EBV and autoimmune diseases is not fully understood.

Childhood Disorders Associated with EBV

EBV infection has also been associated with two childhood disorders: Alice in Wonderland syndrome, which causes distorted perception of time, space, and body image, and acute cerebellar ataxia, which affects coordination and balance.

National Panchayat Awards Week

The Ministry of Panchayati Raj is celebrating the National Panchayat Awards Week from 17th to 21st April this year. This week-long celebration is aimed at recognizing the efforts of Panchayati Raj institutions in achieving sustainable development goals and promoting good governance at the grassroots level.

Theme and Duration

The theme of the National Panchayat Awards Week Celebrations 2023 is "Panchayaton ke Sankalpon ki Siddhi ka Utsav," which means "Celebration of the Success of Panchayat's Aspirations." The week-long celebration will last for five days and will include various events and conferences.

National Conferences

The National Conferences will be held at the C. Subramaniam Auditorium, NASC Complex, Pusa, New Delhi, on 18th, 19th, and 20th April 2023. The themes for these conferences are "Poverty-free and Enhanced Livelihoods Panchayat, Self-sufficient Infrastructure Panchayat and Panchayat with Good Governance," "Child-friendly Panchayat, Women-friendly Panchayat, and Socially-secured Panchayat," and "Water Sufficient Panchayat, Clean and Green Panchayat, and Healthy Panchayat," respectively.

Localization of Sustainable Development Goals

The Localization of Sustainable Development Goals can be achieved through Panchayati Raj Institutions. It aims to empower Panchayati Raj Institutions to contribute to the achievement of Sustainable Development Goals by aligning local development plans and priorities with national and global goals.

Azadi Ka Amrit Mahotsav 2.0

Azadi Ka Amrit Mahotsav (AKAM) is a nationwide campaign launched by the Government of India to commemorate 75 years of India's Independence. The National Panchayat Awards Week commemorates the Azadi Ka Amrit Mahotsav 2.0. AKAM 2.0 aims to enhance the outreach of AKAM to touch the lives of every Indian by celebrating the achievements and contributions of the people of India in various fields.

Maharashtra Bhushan Award

The Maharashtra Bhushan award is the highest civilian award presented annually by the state government. It is a prestigious recognition that celebrates outstanding achievements and contributions in various fields. The award has a rich history and has been conferred upon numerous notable individuals who have made significant contributions to society.

History and Evolution of Maharashtra Bhushan Award





The Maharashtra Bhushan award was conferred for the first time in the year 1996. Initially, it was conferred in the fields of literature, art, sports, and science, but over the years, the categories have expanded to include social work, journalism, and public administration and health services. This expansion reflects the evolving landscape of contributions and achievements that are worthy of recognition.

Notable Recipients and Recent Events

In recent years, the Maharashtra Bhushan award has been presented to individuals who have made exceptional contributions to society. Recently, Union Home Minister Amit Shah conferred the award upon Appasaheb Dharmadhikari, a renowned personality known for his philanthropic efforts.

Appasaheb Dharmadhikari: A Philanthropic Leader

Appasaheb Dharmadhikari, the recipient of the Maharashtra Bhushan award at the recent government event, is known for his remarkable contributions to society. He has dedicated his life to the service of humanity and founded the Dr Shri Nana Saheb Dharmadhikari Pratishthan, an organization that engages in various activities such as environmental conservation, water conservation and protection, health, education, business, disaster management, and transport.

Philosophy and Contributions of Appasaheb Dharmadhikari

Appasaheb Dharmadhikari's philosophy revolves around making everyone aware of the universal consciousness lying within each individual. He believes that service to humanity is the only purpose of life and has actively worked towards promoting national integration. His organization, Dr Shri Nana Saheb Dharmadhikari Pratishthan, organizes regular congregations called Shri Baithaks, where people come together to engage in discussions and activities aimed at fostering a sense of community and social responsibility.

Recognition and Achievements

Appasaheb Dharmadhikari's efforts in the area of cleanliness have also been recognized, and he was appointed as 'Swachata Doot' (cleanliness ambassador) by the then Maharashtra governor. His selfless contributions to various causes have earned him widespread admiration and respect from people across Maharashtra and beyond.

What is Cheiraoba?

Cheiraoba, also known as Sajibu Nongma Panba, is a significant festival celebrated by the Meitei community that follows Vaishnav Hinduism in Manipur. This festival is considered one of the most important festivals of the northeastern state and is celebrated with great pomp and joy.

When is Cheiraoba celebrated?

Cheiraoba is usually celebrated in the month of April and marks the beginning of the lunar new year for the Meiteis residing in Manipur and elsewhere. While the followers of Sanamahism, Meitei's indigenous religion, celebrate it on the first day of the lunar new year, the followers of Vaishnav Hindus celebrate it on the 13th or 14th of April every year according to the solar Hindu calendar.

Celebrating Cheiraoba

On this day, Meiteis clean their houses and dress up in their traditional attires to mark the occasion. Traditional cuisines such as eromba, pakora, ooti, and many more are prepared and offered to the local deity in addition to flowers and incense sticks in front of the gates. The dishes are also exchanged with neighbors.





Visiting the Nearest Hillocks

After they consume the sumptuous meal, people visit the closest hillocks for merriment in the afternoon. According to traditional beliefs, climbing the hilltop to worship the deity on this new year of the Meiteis will usher in prosperity and help people achieve greater heights in life. This tradition has great significance as it aids in digestion after consuming a lot of food.

Thabal Chongba

At night, Thabal Chongba, the Manipuri folk dance, is organized by the locals across Manipur valley as a joyous event for ushering in the much-awaited Meitei new year. It is a lively dance, which involves rhythmic clapping, and the dance itself is performed in a circle.

Customs on Cheiraoba

On Cheiraoba, women visit their paternal homes with gifts for the family's male members. This custom is an act of repaying the gifts received by them on the day of Ningol Chakouba, a festival celebrated for the strengthening of the bond between brothers and sisters.

NIMHANS-AHT Comprehensive Mental-Health Action Program for

The National Institute of Mental Health and Neurosciences (NIMHANS) and NGO Ashraya Hastha Trust (AHT) signed an MoU recently to test the feasibility of a model comprehensive rural mental health program named "NAMAN" (NIMHANS-AHT Comprehensive Mental-Health Action Program for Rural Communities) in two taluks before launching it nationwide.

NAMAN envisions to deliver promotive, preventive, therapeutic, and rehabilitative care for the entire population of the target taluks utilizing the existing human resources in the community. It will be implemented over 3 years in 4 phases. The first phase includes resource building, which involves staff recruitment and training. The second phase will involve the conducting of the situational analysis to assess the mental health of the respective taluks. The third phase is intervention, which involves therapeutic and rehabilitation services. The final phase is evaluation.

Implementation partners and collaborating institutes

The two taluks selected for implementing NAMAN are Munsiyari in Uttarakhand's Pithoragarh district and Belur Taluk in Karnataka's Hassan district. NIMHANS will develop and implement the overall roadmap of the program, and All India Institute of Medical Sciences (AIIMS) -Rishikesh will collaborate with NIMHANS to deliver the program in Uttarakhand. Other implementation partners include the state governments of Karnataka and Uttarakhand.

Authority Holding Sealed Particulars

Defence Minister Rajnath Singh recently approved a proposal for industry-friendly reforms related to the Authority Holding Sealed Particulars (AHSP).

What is AHSP?

The AHSP is responsible for generating, maintaining, updating, or declaring obsolete the entire history and technical information of defence products. So far, the Directorate General of Quality Assurance (DGQA) was the



AHSP for majority of the defence items that were designed and developed by the various defence public sector undertakings and private industries.

Why are reforms necessary?

The existing procedures related to the AHSP have bottlenecks. Liberalization of the AHSP procedures to make them more industry friendly will ensure timely improvements in defence products and technologies as per the changing times. It will allow defence companies to own and account for their final designs and specifications as AHSP. This will enable them to develop products, systems, sub-systems, and components using their own indigenous capabilities (excluding critical stores) more quickly and efficiently.

Simplified mechanism for decision-making

In the event of any change in the sealed particulars, a simplified mechanism representing all stakeholders concerned, including the industry, will make a decision. The DGQA will notify the detailed procedure within two months.

Examination and rationalization of AHSPs by DGQA

The DGQA has been directed to probe all AHSPs and rationalize the entire list within two months. The ministry has advised the DGQA to transfer the AHSP to the industry at the earliest. This move is another significant step taken by the Indian government to encourage ease of doing business.

Aim of the reforms

The government's aim behind these reforms is to enable timely improvements in products and technologies based on the changing situations. With these industry-friendly reforms, the Indian defence companies will be able to make the necessary changes and improvements to their products, which will help boost their overall competitiveness. The reforms will create a conducive environment for the industry to innovate and make significant contributions to the defence sector, leading to the growth of the Indian defence industry.

SOPs for Safety and Security of Journalists

A recent incident in Prayagraj, Uttar Pradesh has raised concerns about the safety and security of journalists in India. On April 15, 2023, mafia don-turned-politician Atiq Ahmed and his brother were shot dead by three individuals posing as TV news reporters. The assailants were carrying identity cards, a mic, and a camera, and one of them shot Atiq Ahmed at point-blank range when he was interacting with media persons.

The incident has prompted the Ministry of Home Affairs (MHA) to draft a Standard Operating Procedure (SOP) for the safety and security of journalists. The decision to draft the SOP was taken under the direction of Prime Minister Modi. It aims to ensure the safety of media persons while following the accused and interviewing such individuals while they are in custody.

This is not the first time that the MHA has expressed concern about the safety of journalists. On October 20, 2017, the Ministry urged all States "to strictly enforce the law to ensure that a peaceful environment prevails, allowing journalists/media personnel to exercise freedom of speech and expression in their professional pursuit; ensure that investigations are concluded in a time-bound manner and public trust in criminal justice system is maintained."

The advisory further highlighted the importance of the Fourth Estate as an institution of democracy. It ensures that citizens are able to express their opinions freely without any fear or coercion, as provided under the





Constitution. The advisory emphasized that incidents of attack on journalists/media persons need to be investigated promptly to ensure that criminals get prosecuted in a time-bound manner. State governments have the power to provide security to individuals based on threat perceptions.

The Prayagraj Incident: What Happened

Atiq Ahmed and his brother Khalid Azim alias Ashraf were being escorted by about a dozen police personnel for a routine medical check-up when they were shot dead by three assailants. According to the FIR that was filed after the shooting incident, the assailants threw the mic and camera and opened fire with semi-automatic weapons when the duo were speaking with reporters. One of the accused was injured in cross-firing, and some media persons were injured in a stampede-like situation when the incident occurred.

Ningaloo Eclipse

On April 20, sky gazers and astronomy enthusiasts around the world are gearing up for a rare celestial event known as the “Ningaloo Eclipse.” This solar eclipse is unique as it is a hybrid eclipse, transitioning from an annular eclipse to a total eclipse in certain regions before becoming an annular eclipse again. In this article, we will explore everything you need to know about the Ningaloo Eclipse, including its name, timing, appearance, visibility, and related lunar eclipse.

The Ningaloo Eclipse is the name given to the upcoming solar eclipse that is set to occur on April 20. This rare event is known as a hybrid solar eclipse because it transitions from being an annular eclipse to a total eclipse in certain regions before becoming an annular eclipse again. An annular eclipse happens when the Moon partially covers the Sun, resulting in a “ring of fire” appearance where a small dark circle is visible on top of the Sun.

What happens during a total eclipse?

During a total solar eclipse, the Moon passes between our planet and the Sun, completely obstructing its face. This results in a complete darkening of the sky, creating a similar effect to early morning or late evening. However, only those people who are within the Moon’s shadow will be able to witness the total solar eclipse.

The Corona of the Sun

Under optimal weather conditions, those in the path of the total solar eclipse may be able to see the Sun’s corona, which is the outer layer of the Sun’s atmosphere. The corona is typically concealed by the Sun’s bright face, but during a total solar eclipse, it becomes visible, creating a breathtaking sight.

Related Lunar Eclipse

Eclipses tend to occur in pairs. After the occurrence of the total solar eclipse on April 20, there will be a penumbral lunar eclipse on May 5. However, this lunar eclipse will only be a penumbral eclipse, indicating that the imperfect alignment of the Sun, Earth, and Moon.

What is Civil Union?

During the SC’s hearing on same sex couples’ right to marry, the Centre, represented by Solicitor General Tushar Mehta, challenged the validity of the petitions and the judiciary’s authority to grant legal recognition to the “socio-legal institution” of marriage. In response, the Chief Justice of India clarified that the hearing would focus solely on establishing the concept of a “civil union” that is legally recognized under the Special Marriage Act.

A civil union is the legal status that provides same-sex couples specific rights and responsibilities normally conferred upon married couples. This means that same-sex couples who are in a civil union have access to legal





protections and benefits that were previously unavailable to them. These rights are often similar to those conferred upon married couples, such as inheritance rights, employment benefits to spouses, joint parenting or joint ownership rights, and the right to abstain from testifying against one's partner.

Difference between Civil Unions and Marriage

One of the main differences between civil unions and marriages is the level of legal recognition they receive. Civil unions are recognized by issuing states, and not by federal law. This means that same-sex couples in civil unions may not be able to enjoy the benefits of being in a civil union uniformly, across all states. This disparity of recognition existed in the US, where states had to determine their own marriage laws. In contrast, marriages are recognized by both state and federal law, which means that the rights and benefits conferred upon married couples are uniform throughout the country.

Legalisation of Same-Sex Marriages

In 2015, the Supreme Court of the United States (SCOTUS) legalised same-sex marriages across the country with its landmark ruling in "Obergefell v. Hodges". Before this ruling, a majority of the US states had civil union laws that allowed same-sex couples to marry, without providing them formal recognition of the same. In the wake of the legalisation of same-sex marriages, several civil unions were converted into marriages.

Other Countries that Recognize Civil Unions

The United States is not the only country that recognizes civil unions. Sweden legalised same-sex marriages in 2009, but prior to that, LGBTQ couples could apply for civil unions and enjoy benefits such as the right to adopt. Similarly, couples in Norway enjoyed the right to enter into civil unions from 1993, which gave way to a new law 15 years later, allowing such couples to marry, adopt and undergo state-sponsored artificial insemination.

In Austria, same-sex couples could form civil partnerships between 2010 and 2017, but civil unions were deemed discriminatory in January 2019 when same-sex marriages were legalised. Other countries that have recognised the right of same-sex couples to enter into civil unions include Brazil, Uruguay, Andorra, and Chile.

National Health Claims Exchange (HCX)-Sandbox

The National Health Authority has invited participation in the National Health Claims Exchange (HCX)-Sandbox recently under the Ayushman Bharat Digital Mission (ABDM).

About HCX

The Health Claims Exchange (HCX) is a new initiative under the Ayushman Bharat Digital Mission (ABDM) that aims to bring interoperability of health claims and streamline the process of claim settlement. The HCX was announced by the National Health Authority (NHA) on September 23rd, 2022, as a solution to the challenges posed by the current manual and non-digital process of exchanging health insurance claims in the country.

Features of HCX

The HCX is designed to be interoperable, machine-readable, auditable, and verifiable, ensuring that the information being exchanged is accurate and trustworthy. Insurers and third-party administrators (TPAs) are required to send responses for each e-claim submitted by providers via the HCX through standard protocols (APIs). The HCX acts as a gateway for the ecosystem, validating and routing the responses.

Benefits of HCX





The HCX is expected to lead to a reduction in operational overheads and increase trust among payers and providers through a transparent and rule-based mechanism. It will reduce claims processing costs, expedite pre-authorization or patient discharge approvals, improve patient experience, better track claims, and provide better quality data for industry and regulators.

HCX – Sandbox Environment

To ensure the success and adoption of the claims network, the NHA has introduced the HCX – Sandbox Environment. This is a testing ground for contributors and developers from the open community, especially those working in the Health Insurance and Healthcare Provider space, to test and contribute to the HCX ecosystem. The HCX – Sandbox enables participants to test their specific components against communication standards and get certified to become a part of the system. The successful completion of the HCX – Sandbox process enables the participants to gain access to the HCX production environment.

Animal Birth Control Rules, 2023

The Animal Birth Control Rules, 2023 have been notified by the Central Government on March 10th, 2023, under the Prevention of Cruelty to Animal Act, 1960. These rules supersede the Animal Birth Control (Dog) Rules, 2001 and address the 2009 guidelines of the Supreme Court issued during the hearing between Animal Welfare Board of India and People for Elimination of Stray Troubles. These rules aim to regulate and streamline the Animal Birth Control (ABC) program and address animal welfare issues.

Guidelines for Sterilization and Immunization of Stray Dogs

The Animal Birth Control Rules, 2023 lay down guidelines for the sterilization and immunization of stray dogs as a means of population control. The responsibility for carrying out the ABC program lies with the respective local bodies, including municipalities, Municipal Corporations, and Panchayats. These bodies are required to implement the ABC program in collaboration with AWBI recognized organizations specifically recognized for Animal Birth Control programs.

Cruelty Prevention

The Animal Birth Control Rules, 2023 emphasize the need to address cruelty involved in the implementation of the ABC program. The rules stress the importance of carrying out sterilization and immunization procedures in a humane manner, without causing any unnecessary harm or suffering to the animals. This includes providing adequate post-operative care, pain management, and ensuring the well-being of the animals during and after the procedures.

Supreme Court Orders

The Animal Birth Control Rules, 2023 also take into account the orders of the Supreme Court, which have specifically mentioned that relocation of dogs cannot be permitted. This indicates that the rules prioritize non-lethal methods of population control and discourage the relocation of stray dogs from one area to another as a means of addressing the issue.

Joint Implementation

The 2023 rules highlight the need for Municipal Corporations to jointly implement the ABC program along with the Anti Rabies Program. This underscores the importance of integrating sterilization and immunization efforts with rabies control measures to effectively manage the population of stray dogs and reduce the risk of rabies transmission.





AWBI Recognition

According to the new rules, the Animal Birth Control program needs to be carried out only by AWBI recognized organizations. This ensures that the ABC program is carried out by qualified and experienced organizations to ensure the welfare of the animals.

List of Recognized Organizations

The Animal Birth Control Rules, 2023 mandate that the list of AWBI recognized organizations for the ABC program will be made available on the website of the Board and will be updated from time to time. This provides transparency and accountability in the selection of organizations to carry out the ABC program and ensures that only recognized organizations are entrusted with the responsibility.

World Heritage Day

World Heritage Day, also known as the International Day of Monuments and Sites, is observed annually on April 18th to promote global awareness of the significance of historical, heritage, and cultural monuments and the measures required to protect them for future generations.

In 1982, the International Council on Monuments and Sites (ICOMOS) proposed the concept of World Heritage Day. The following year, the General Conference of UNESCO approved it. Since then, the day has become a significant occasion for raising public awareness of cultural assets.

Promoting Cultural Heritage

The primary objective of World Heritage Day is to promote respect for and preservation of the cultural heritage found around the world for upcoming generations. It honors the unique and varied cultural heritage found around the world and reminds us of the importance of preserving and protecting these sites so that future generations can also witness them and embrace the rich heritage of the world.

The Significance of World Heritage Day

World Heritage Day is a crucial event for raising public awareness of cultural assets. It emphasizes that these sites are not just a part of our past but an integral part of our present and future. Celebrating World Heritage Day fosters a sense of pride and responsibility for our cultural heritage, encouraging people to become active participants in preserving it.

Theme of World Heritage Day 2023

Every year, World Heritage Day is celebrated under a specific theme. The theme for 2023 is "Heritage Changes," with a focus on climate action and its connection to cultural heritage. This year's theme aims to encourage people to consider how heritage sites are affected by climate change and what steps can be taken to mitigate the impact.

Olkiluoto 3 reactor

Europe's most powerful nuclear reactor, Olkiluoto 3, has recently started producing regular energy in Finland after a delay of 14 years from its original completion timeline. This costly reactor, with a capacity of 1,600 megawatts, has been connected to the Finnish national power grid in March 2022 and is expected to play a significant role in Finland's energy production and transition toward green energy.

Olkiluoto 3: Boosting Finland's Energy Self-Sufficiency





After a test phase lasting more than a year, Olkiluoto 3 has kicked off regular production on 16 April, providing a serious boost to Finland's electricity self-sufficiency. Currently, Olkiluoto 3 is producing around 14% of the country's electricity, which is a significant addition to clean, domestic production. The launch of this new nuclear reactor is expected to stabilize the price of electricity and increase energy security, especially at a time when European countries have cut oil and gas from Russia, Finland's neighbor.

The Technology Behind Olkiluoto 3: European Pressurized Reactor (EPR)

Olkiluoto 3 is the first new-generation European Pressurized Reactor (EPR) plant that has gone online in Europe. Developed in a joint venture between France's Areva and Germany's Siemens, this advanced technology has faced several technological problems, leading to delays and lawsuits. However, with its capacity of 1,600 megawatts, Olkiluoto 3 is now operational and expected to remain so for at least the next 60 years, providing a significant contribution to Finland's energy production.

The Cost of Olkiluoto 3: An Expensive Venture

The construction of Olkiluoto 3 began in 2005 and has faced significant delays, resulting in a final estimated cost of around 11 billion euros (\$12 billion). This price tag is almost three times what was initially estimated, making Olkiluoto 3 a costly venture for Finland. However, those who advocate for this project argue that it will help the country increase its energy security and reach its carbon neutrality targets.

Nuclear Power in Finland: Current Status and Future Plans

Presently, Finland has 5 nuclear reactors in two power plants situated on Baltic Sea shores. These plants together cover more than 40% of the nation's electricity demand. The government of Finland is currently planning to increase the share of energy from nuclear power even further.

Hun-Thadou Cultural Festival

The Hun-Thadou cultural festival is an annual celebration of the Thadou community in Manipur. It is a time when the Thadou people come together to honor their customs, culture, and religious beliefs. Recently, the 5th edition of the festival was held at Thomas Ground in Kangpokpi district. The event was attended by dignitaries, including the Chief Minister of Manipur, state ministers, MLA, top civil and police officers.

Hun: The Most Important Festival of the Thadou Tribe

Hun holds immense significance for the Thadou tribe as it is considered the most important festival among all their celebrations. The word "Hun" signifies time and season according to the Thadous, and it is celebrated for seven days, making it a grand affair for the community.

Reasons Why Hun is Important for the Thadou Tribe

Celebration of New Year: Hun marks the arrival of the New Year for the Thadou tribe. It is a time when they bid farewell to the old year and welcome the new year with joy and enthusiasm. It is a time of new beginnings and fresh hopes for the community.

Religious Affair: Hun is an annual religious affair for Thadou families. During the festival, the Thadou people acknowledge the existence of the all-powerful God and seek blessings for the well-being of their families and communities. It is a time of deep reverence and spirituality for the Thadou tribe.





Peace and Well-being: On the occasion of Hun, chief and his Council of Ministers satisfy themselves that peace prevails in their chiefdom and there is no sickness. It is a time to ensure the well-being and prosperity of the community, and the festival serves as a platform for the leaders to assess the state of affairs in their chiefdom.

Acknowledgment of Women's Labor: The labor of women is acknowledged during Hun celebrations. Women play a vital role in Thadou society, and their contributions are recognized and appreciated during this festival. It is a time to honor and appreciate the role of women in Thadou culture and society.

Children's Joy and Respect: For children, Hun is a highly awaited occasion as they show great love and respect to their maternal grandparents during the festival. It is a time for family bonding and inculcating traditional values in the younger generation.

Annual Village Assembly: The 7th day of Hun is significant as it is the day of the Annual Village Assembly. It is a time when the entire community comes together to discuss and address important issues, make decisions, and plan for the future. It is a platform for community governance and decision-making.

Global Food Policy Report, 2023

The International Food Policy Research Institute (IFPRI) released the Global Food Policy Report, 2023 on April 13, urging stakeholders to invest in long-term solutions for building resilient and equitable food systems. The report highlights that multiple crises, such as the COVID-19 pandemic, climate change, natural disasters, civil unrest, and political instability, have led to a rise in food insecurity worldwide during 2020-2022.

Three Key Areas of Focus for Responding to Food System Shocks

To respond to food system shocks, the IFPRI report suggests focusing on three key areas: crisis prediction and preparation; building resilience before and during crises; and making crisis response supportive and inclusive of vulnerable groups. Investing in early warning systems is essential to save lives, livelihoods, and money.

The Urgent Need for Strengthening Agrifood Value Chains

The report advocates for strengthening agrifood value chains to support livelihoods and food security during crises. The Food and Agriculture Organization (FAO) estimates that 3.83 billion people worldwide live in households reliant on agrifood systems-based livelihoods, at least in part. In particular, fertiliser prices rose by 199% between May 2020 and the end of 2022, exacerbating food insecurity, according to the World Economic Forum.

Current State of Hunger Levels and Undernourishment

The IFPRI report reveals that 205 million people across 45 countries experienced crisis-level acute food insecurity or worse in 2022. The Food and Agriculture Organization's State of Food Security and Nutrition Report estimates that 768 million people worldwide were undernourished in 2021. Furthermore, hunger levels in 2023 are higher than ever before, according to the World Food Programme.

Promoting Gender Equality and Sustainability in Food Systems

To promote gender equality and sustainability, IFPRI suggests integrating social protection with gender and climate goals and empowering women. According to the report, 20% of Africa's population is food insecure and undernourished. Investing in long-term solutions is crucial, as climate change is predicted to leave 72 million more people undernourished by 2050.





The Required Investment for Resilient and Sustainable Food Systems

The finance lever of the UN Food Systems Summit estimates that an annual investment of \$300-400 billion is required to make food systems more resilient and sustainable. Therefore, it is vital for governments, policymakers, and other stakeholders to prioritize long-term solutions for building resilient and equitable food systems to address the current food crises and prevent future ones.

Miguel Diaz-Canel

Cuba's political landscape recently witnessed a significant development as Miguel Diaz-Canel secured a second five-year term as the President of the country. With a parliamentary vote that had him as the sole candidate, Diaz-Canel's bid to serve as the most powerful man in Havana's corridors of power was confirmed by an overwhelming majority.

Diaz-Canel's second term as Cuba's president was confirmed through a parliamentary vote, with him being the only candidate on the ballot. The parliamentary vote took place in the Communist Party of Cuba-aligned National Assembly, and Diaz-Canel's bid was approved by an astounding 97.66 percent of votes cast. This resounding mandate reflects the support he enjoys among the ruling party members and the Cuban political establishment.

Announcement of Results and Succession

The results of the parliamentary vote were announced by Esteban Lazo, the president of the National Assembly. Diaz-Canel's successful bid for a second term makes him the first non-Castro leader of Cuba since the revolution, as he succeeded the brothers Fidel and Raúl Castro. This marks a historic transition of leadership in Cuba and sets the stage for Diaz-Canel to continue shaping the country's political and economic future.

Voter Turnout and Validity of Votes

Cuban authorities announced the election of all 470 legislators for the National Assembly on March 27, 2023. The initial turnout for the elections was reported to be 75.92 percent, indicating a significant level of engagement among the Cuban electorate. Moreover, just over 90 percent of votes cast were deemed valid, with a small percentage left blank or annulled.

Denunciation by the United States Embassy

The recent elections in Cuba were not without controversy. The United States embassy in Cuba denounced the vote as "undemocratic" due to the absence of opposition parties and the one-party system in Cuba. The embassy took to Twitter to express its concerns and called for real choices in elections with candidates from more than one political party, and beyond the Communist Party.

Controversial Issues in Diaz-Canel's Second Term

As Diaz-Canel embarks on his second term as Cuba's president, there are expectations regarding the governance of controversial issues. Regulation of the press and the right to protest in Cuba are anticipated to be key areas of focus. The press has been tightly controlled in Cuba, and the right to protest has been limited in the past. It remains to be seen how Diaz-Canel's government will navigate these sensitive issues in the coming years.

Type 2 Diabetes and COVID-19

Type 2 diabetes is a chronic health condition that affects the way the body processes blood sugar. The disease is characterized by high blood sugar levels and can lead to a number of serious health complications. Recent



research has found a link between COVID-19 infection and an increased likelihood of a Type 2 diabetes diagnosis.

Several studies have found a significant association between COVID-19 infection and an increased risk of Type 2 diabetes. A study published in the Lancet Diabetes & Endocrinology journal found that COVID-19 infection increased the risk of diabetes diagnosis by up to 50%. Another study, published in the Journal of Diabetes Investigation, found that COVID-19 infection increased the risk of diabetes diagnosis by up to 80%.

In a study published in JAMA Network Open, researchers compared diabetes diagnoses among COVID-19 positive and unexposed individuals. The study found that those who were hospitalized due to COVID-19 were more than twice as likely to develop diabetes compared to those who were not exposed to the virus. Those who were admitted to intensive care due to COVID-19 were more than three times as likely to develop diabetes.

Possible Biological Explanations

While the link between COVID-19 and Type 2 diabetes is still not fully understood, several biological explanations have been proposed. One possible explanation is that the virus directly infects the beta cells in the pancreas, which are responsible for producing insulin. Another possible explanation is that the stress and inflammatory response associated with COVID-19 infection can lead to insulin resistance and diabetes.

The new study published in JAMA Network Open found that 3.4% of new diabetes cases could be attributed to COVID-19 infection overall. For men, this figure was higher, at 4.75%. The study adjusted for several factors, including age, sex, underlying health conditions, socioeconomic status, vaccination status, and other factors.

The findings of the study do not prove that COVID-19 infection causes diabetes. However, the majority of studies on the link between COVID-19 and diabetes have reported an increase in diabetes diagnosis after COVID-19 infection. The statistical significance of elevated risk for women in developing diabetes after COVID-19 infection was not significant overall unless hospitalized or admitted to an intensive care unit.

State of World Population Report

The United Nations Population Fund (UNFPA) released its annual State of World Population (SOWP) report on April 19, 2023. The report focuses on the current state and projections of the world's population, including trends, challenges, and opportunities for sustainable development. The report covers a wide range of topics, including demographics, migration, health, gender, and human rights.

The current global population, according to the UNFPA report, is 8,045 million. The largest share of the population is between the ages of 15 and 64 years, which represents 65% of the world's population. Eastern and South-Eastern Asia, and Central and Southern Asia have the largest populations, with more than 1.4 billion people each in 2022.

Fertility Rates and Replacement Level

The report highlights the replacement fertility rate, which is the number of children a woman needs to have to maintain a stable population level. The replacement fertility rate is 2.1 children per woman. According to the report, 60% of the world's population lives in a region where the fertility rate is below replacement level, which can have implications for population growth and economic development.

Migration and Population Growth





International migration is identified as a driver of population growth in many countries. According to the report, Pakistan has seen the highest net flow of migrants between 2010 and 2021. The report also highlights the challenges and opportunities that migration can bring, including economic benefits and social cohesion.

Life Expectancy and Ageing Population

The report notes that the current life expectancy for men is 71 years. The highest number of newborns in 2021 were in Asia and sub-Saharan Africa, which highlights the need for investment in maternal and child health in these regions. The average longevity projected by the UN in 2050 is around 77.2 years globally. The report also projects that 16% of the global population will be aged 65 years or above in 2050.

Population Decline and Sustainability

One of the key implications of declining fertility rates in high fertility regions is the potential for a decline in the global population. The report notes that once fertility rates drop, the global population will start to decline. This presents opportunities and challenges for sustainable development, including reducing carbon emissions, improving resource management, and addressing inequality.

National Quantum Mission

The Union Cabinet of India recently cleared the National Quantum Mission, a groundbreaking initiative aimed at harnessing the power of quantum technologies. With a budget of Rs 6,003 crore and an expected duration of eight years, the mission seeks to unlock the potential of quantum computing, quantum communication, and quantum sensing.

Objective of the National Quantum Mission

The National Quantum Mission is a multidimensional effort that encompasses four verticals. The first three verticals focus on quantum computing, quantum communication, and quantum sensing, respectively. These areas have immense potential in various applications, from ultra-secure military communication to highly accurate MRI machines. The mission aims to develop novel materials and devices that would support these core programs. This holistic approach will facilitate advancements in quantum technologies and position India as a global leader in the field.

Significance of the National Quantum Mission

The National Quantum Mission is a significant milestone for India, as it places the country among the few nations that possess frontier technologies related to quantum computing, communication, and sensing. Currently, the US, Austria, Finland, France, Canada, and China are the only countries with dedicated quantum missions. However, unlike these countries, which are primarily in the research and development stage, India aims to be at par with them by combining expertise from research institutions and the industry through sustained funding. This collaborative approach is essential, considering the complexity of quantum technologies and the need for a mission mode program to achieve breakthroughs.

Key Objectives of the National Quantum Mission

The National Quantum Mission has set several key objectives to drive advancements in quantum technologies. One of the main goals of this mission is to achieve long-distance quantum communication across a 2000 km gap, either using satellites or fibers. This ambitious goal requires the development of multiple ground stations within India and abroad. Additionally, the mission aims to make significant progress in quantum computing by developing 50 physical qubits initially and eventually scaling up to 1,000 qubits.





These qubits are developed using various platforms such as superconducting, ionic, or photonic technologies. Currently, India has only developed 2-3 qubits in a superconducting platform, while IBM has already developed 430 qubits and aims to reach 1,000 qubits by 2023.

Challenges Ahead

Despite the ambitious goals of the National Quantum Mission, there are several challenges that India may face on this quantum leap. Quantum technologies are highly complex and require interdisciplinary expertise in areas such as physics, computer science, materials science, and more. The lack of skilled researchers and infrastructure could pose challenges in achieving the mission's objectives. Additionally, quantum technologies are still in their nascent stage, and there are uncertainties around their commercial viability, safety, and ethical implications. Managing these challenges effectively would be crucial for the success of the National Quantum Mission.

Thales Data Threat Report 2023

The Thales Data Threat Report 2023 is a comprehensive analysis of cybersecurity trends and threats. It has revealed some concerning findings about ransomware attacks and cloud data breaches in India and globally. The report highlights a significant increase in these attacks, indicating the need for businesses to implement robust security measures to protect their sensitive data.

The report finds that ransomware attacks have seen a significant increase in India and worldwide. In India, more than half (52%) of IT professionals reported a surge in ransomware attacks in the past 12 months. This is higher than the global figure of 48 percent. This highlights the growing threat of ransomware attacks and the need for businesses to be prepared to mitigate such risks.

Main Targets for Cyber-Attacks

The report identifies cloud assets and Internet of Things (IoT) devices as the primary targets for cyber-attacks. In India, 53% of respondents claimed that their IoT devices were the top most targets, followed by cloud-based storage (41%) and cloud-delivered applications (SaaS) (40%). This indicates that businesses need to prioritize the security of their cloud assets and IoT devices to protect against cyber-attacks.

Human Error: Primary Cause of Cloud Data Breaches

Human error, misconfiguration, and other mistakes are found to be major causes of cloud data breaches. In India, 52% of respondents who suffered a data breach in the past 12 months cited human error as the main cause. Proper training, processes, and access management can prevent human error-related data breaches.

Data Loss from Ransomware Attacks Remains a Concern

Data loss from ransomware attacks remains a key concern for enterprises within India. A staggering 82 percent of Indian respondents reported data loss from ransomware attacks, compared to 67 percent globally. This highlights the need for robust backup and recovery strategies to mitigate the impact of ransomware attacks.

Tea Mosquito Bug Infestation

India is the world's second-largest tea producer after China. However, the tea industry in India has been facing a major setback due to the infestation of tea mosquito bugs. These pests, which are a type of mirid bug, feed on the tender tea leaves and cause extensive damage to the tea bushes. This has led to a significant decline in





tea production, especially in the Valparai region of Tamil Nadu, where the production has fallen by around 50 percent over a decade.

Tea mosquito bug infestation is threatening the very existence of tea plantations and the situation is worsened by the rising cost of inputs and employee wages. For instance, the pest infestation resulted in Valparai tea region witnessing falling in production from 30 million kg in 2009-10 to 16.73 million kg in 2021-22.

Limited Choice of Pesticides

The tea growers in impacted areas are spending around ₹12,000 per hectare on pesticide application each year. However, the control of the pest is poor due to the lack of effective molecules available to control the pest. The problem is further exacerbated by the limited choice of pesticides available to tea growers. The Tea Board has imposed restrictions on the use of certain pesticides after the formation of the Plant Protection Code (PPC) in 2014, with the objective of making Indian tea safer and free of harmful residue. Consequently, only 7 pesticides are approved for use in South India, and planters are unable to implement effective control measures.

Rapid Spread to Higher Elevation Plantations

The tea mosquito bug was once considered a wet weather pest, and was earlier restricted to plantations in low elevations. However, the pest is now spreading rapidly to higher elevation plantations too. The situation has put the tea industry in India at risk, as tea is a major export commodity for the country. Therefore, the government needs to take immediate measures to control the pest infestation and safeguard the tea industry.

Shawwal Moon

Muslims all around the world celebrate the start of the Shawwal month as it marks the end of the month-long fasting of Ramadan and the beginning of the Eid al-Fitr festival. The Shawwal Moon is an important celestial event in the Islamic calendar as it indicates the beginning of the new month. The sighting of the new moon or crescent is a traditional practice among Muslims to mark the beginning of the 10th month in the Islamic calendar.

The traditional method of observing the new moon or crescent is done with the naked eye or telescopes. This is typically done on the 29th day of the preceding month. If the new moon is sighted, then the first day of the new month begins the next day. If not, the current month extends to 30 days, and the new month begins the day after.

The Shawwal Moon's Appearance

The Shawwal Moon appears just a few hours after the astronomical New Moon. During the New Moon, the Earth's natural satellite gets lost in the Sun's glare and becomes completely invisible. But as it creeps from between the Sun and Earth, its limb becomes visible. Shawwal Moon appears when the moon emerges briefly in the west just after the sunset.

Celebrations Around the World

The start of Shawwal may differ between various Muslim communities and countries. This year, the moon was sighted in the UAE and Saudi Arabia on April 20, so several nations like the United Kingdom, Qatar, and the United States, celebrated Eid al-Fitr on April 21. However, few Muslim nations, like Indonesia and Pakistan did not spot the crescent moon on April 20. Hence, they will celebrate the first day of Eid on 22nd April.

The Status of Women in Agrifood Systems Report





The Food and Agriculture Organization (FAO) recently released a report titled “The Status of Women in Agrifood Systems” which sheds light on the gender disparities in agriculture and its impact on global economy and food security. The report presents comprehensive data and lessons learned about gender in agrifood systems, and highlights the need for gender considerations in achieving better production, nutrition, environment, and livelihoods.

The report reveals that eliminating gender discrimination in agriculture could have significant positive impacts on the global economy and food security. Currently, over 345 million people are estimated to experience acute food insecurity. By closing the gender gap in farm productivity and wage employment in agrifood systems, the report suggests that global GDP could increase by 1% (or almost USD 1 trillion), and global food insecurity could be reduced by about 2%, benefiting 45 million people.

Gender Disparities in Agrifood Systems

The report highlights various gender disparities in agrifood systems. Women’s ownership and secure tenure rights over agricultural land are lower than men’s in most countries reporting on Sustainable Development Goal Indicator 5.a.1. There is also a 24% gender gap in land productivity between farms managed by men and women of the same size. In wage employment in agriculture, women earn 82 cents for every dollar that men earn, indicating a gender wage gap.

Shocks in Agrifood Systems and Differential Impacts

The report shows that shocks in agrifood systems, such as the COVID-19 pandemic, have differential impacts on men, boys, women, and girls. Coping strategies and vulnerabilities differ among gender groups, and women often face more challenges due to existing gender disparities. Addressing gender considerations in shock response and recovery efforts is crucial for building resilience and reducing vulnerabilities in agrifood systems.

Regional Disparities in Women’s Employment in Agrifood Systems

The report highlights regional disparities in women’s employment in agrifood systems. In sub-Saharan Africa, 66% of women’s employment is in agrifood systems, while in southern Asia, it is 71%. This indicates that women in these regions rely more on agrifood systems for their livelihoods than men. Closing the gender gap in these regions could have significant positive impacts on poverty reduction and sustainable development.

Cinematograph (Amendment) Bill, 2023

The Union Cabinet recently approved the Cinematograph (Amendment) Bill 2023. The proposed legislation seeks to curb the transmission of pirated film content on the internet. The announcement was made by Information and Broadcasting Minister Anurag Thakur, who stated that the bill would be introduced in the upcoming session of Parliament.

Currently, films in India are classified into three categories: ‘U’, ‘A’, and ‘UA’. ‘U’ stands for unrestricted public exhibition, ‘A’ is restricted to adult audiences, while ‘UA’ is for unrestricted public exhibition subject to parental guidance for children below the age of 12. The proposed amendments seek to add new classification – “UA-7+”, “UA-13+” and “UA-16+” in place of 12 years, which will be age-based classifications for films.

Aim of the Amendments





Apart from improving the process of certifying films by the Central Board of Film Certification (CBFC), the amendments also aim to bring about uniformity in categorisation of films and content across platforms. They are expected to harmonise the law with executive orders and various Supreme Court judgements, to achieve consistency.

Demands for Amendments

Stakeholders in the film industry have demanded action to curb piracy, age-based film classification and the removal of certain redundant provisions in the existing Act. In 2019, a Cinematograph (Amendment) Bill in the Upper House of the Indian Parliament. The new draft was based on consultations with the film industry, incorporating best practices from across the world.

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