PRAJYA

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INDIA'S historic win at World Chess Championship


Ramesh Babu Pragnanandhaa


Dommaraju Gukesh

45th FIDE Chess Olympiad

BUDAPEST 2024


Harika Dronavalli


Harika Dronavalli


Vidit Gujarathi


Arjun Erigaisi

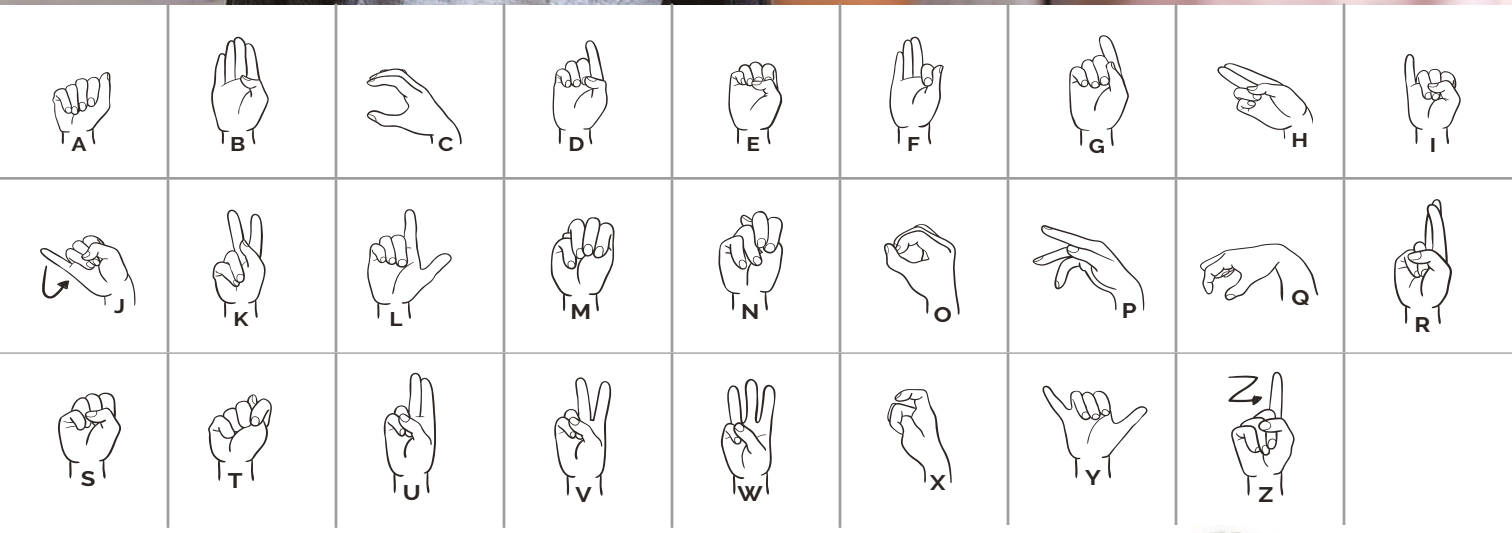

Vaishali Rameshbabu


Tania Sachdev


Pentala Harikrishna


Divya Deshmukh

INTERNATIONAL SIGN LANGUAGE DAY



International Day of Sign Languages (IDSL) is celebrated annually across the world on 23rd September every year along with **International Week of the Deaf** since 1951.

THE PRAJYA TEAM

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FROM THE EDITOR'S DESK

"कर्पूरः पावकस्पृष्ठः सौरवन लभेतराम"

(**Translation:** "Good people do not give up goodness, like camphor gives more fragrance when in contact with fire.")

The nation lost a jewel in the passing of Sri Ratan Tata. As an industrialist he stood like a colossus straddling the world of business and philanthropy with equal ease. His immense contributions go far beyond creating wealth for the company he headed. He dedicated his life to other pursuits like philanthropy, education, healthcare and rural development. His life and action impacted millions of Indians in a positive way. His legacy of simplicity, honour and dignity shall live on, as a source of inspiration to not only industrialists but millions in many ways.

Here was Ratan Tata; when comes such another?

Goodness can be an attribute of nations too. Our nation has always upheld the values of goodness in its relationship with not only neighbours but also to others in general. As **"the first responder"** in times of distress India has always fulfilled essential needs for the people of Maldives, providing drinking water, delivering vaccines during the COVID pandemic and so on.

A turnaround from **"India out"** to **"closest ally"** stance was possible because of the goodwill India as a nation has been able to generate. Recently, India and Maldives issued a vision document outlining shared interests and mutual aid in areas from defence infrastructure to surveillance capabilities, reaffirming a historic relationship.

Read, reflect and revert with your thoughts and feelings.

We look forward to your support and suggestions.

- Editorial Team

Dear Readers,

There have been requests from quite a few readers for hard copies of Prajya. We understand that quite a high percentage of our young readers keep revisiting some articles, and a handy print version within reach induces one to read more often, highlight things and make notes. This also partly contributes to students spending less screen time. The Prajya team is happy to bring to you the issue in print.

However, there are few things that we want to be careful about:

A. We don't want to print more than what is required and

B. Keep the cost of the print version (plus postage) within reasonable limits.

Please note that the access to free online e-version will continue.

So, it will greatly help us if you could fill in the details in the link provided.

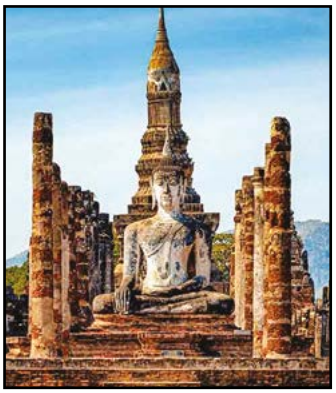
http://bit.ly/Prajya

Happy Reading !

Watch out for the Monthly Prajya Quiz online

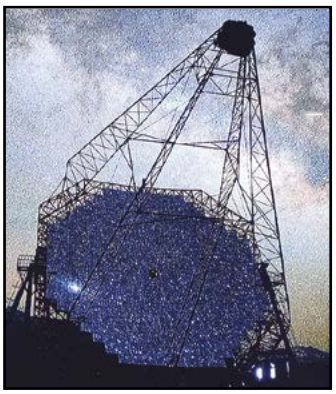
Visit https://davchennai.org/publications/prajya-news-magazine/

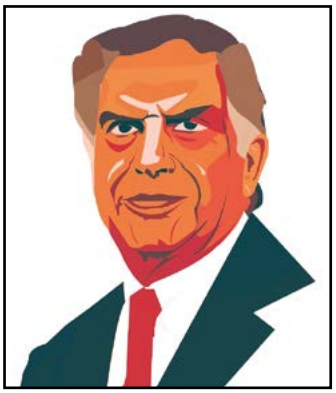
Content



International Current Affairs

National Current Affairs





Defence updates

General Knowledge

Kum Anu Narayan

SpaceX Polaris Dawn Mission

The SpaceX Polaris Dawn mission crew made history recently by completing the first-ever commercial spacewalk. Two crew members, Commander **Jared Isaacman** and mission specialist **Sarah Gillis,** exited the Dragon spacecraft for the "extravehicular activity (EVA)" . Meanwhile, pilot Scott Poteet and mission specialist Anna Menon stayed inside the capsule to support the mission.

Since the capsule was depressurized, all four crew members are now considered "spacewalkers," as they were exposed to the vacuum of space. The spacewalk, initially scheduled for 2:23 a.m. ET, was slightly delayed but finished before 7 a.m. ET.

SpaceX hosted a live webcast of the event, showing Isaacman stepping out of the Dragon capsule to complete manoeuvres and tests outside the spacecraft. During the spacewalk, he remarked, "Back at home we all have a lot of work to do, but from here -- looks like a perfect world." After Isaacman returned, Gillis exited the capsule for about 10 minutes. The astronauts used a shorter handrail system compared to previous NASA spacewalks, making it a unique experience.

During the spacewalk, Isaacman and Gillis tested the new SpaceX EVA (extravehicular activity) suit. The mobility tests conducted during the mission are part of SpaceX's efforts to develop and improve spacewalk technology for future missions.

Eastern Daylight Time (EDT) is a North American time zone in use from the second Sunday in March to the first Sunday in November during Daylight Saving Time.

NASA's SpaceX Crew-9 to ISS for science expedition

NASA's Crew-9 mission faced some weather challenges as storm clouds and thunder rolled over Cape Canaveral. But as launch time approached, the skies cleared just enough for a safe lift-off on 28th September 2024.

At 1:17 p.m. EDT (Eastern Daylight Time is a North American time zone in use from the second Sunday in March to the first Sunday in November) the SpaceX Dragon Freedom, carrying an American astronaut and a Russian cosmonaut, launched from Cape Canaveral's Launch Complex 40. The crew is headed for a five-month mission at the International Space Station (ISS).

About eight minutes after liftoff, a sonic boom echoed through the Cape as the Falcon 9 rocket's first stage booster safely landed back at SpaceX Landing

Zone 1. Shortly after, the crew was confirmed to be safely in orbit.

This was the first time a crewed mission was launched from Launch Complex 40, thanks to a new crew access arm added earlier this year. Previous SpaceX Dragon missions had been launched from Kennedy Space Center's Pad 39A, which is now being prepared for the upcoming Falcon Heavy launch of NASA's Europa Clipper mission.

NASA **astronaut Nick Hague** and Russian **cosmonaut Alexander Gorbunov** will join astronauts Butch Wilmore and Sunita Williams, who have been on the ISS since 5th June. Wilmore and Williams initially travelled on Boeing's Starliner, which had a thruster issue. Due to safety concerns, NASA decided not to use Starliner for their return.

Instead, the two astronauts were added to the Crew-9 mission. All four Crew-9 members will return to Earth in February aboard the SpaceX Dragon.

Russian Cosmonauts break record for longest ISS flight

Veteran Russian cosmonaut Oleg Kononenko has set a new record after spending a total of 1,111 non-consecutive days in space, the longest by any astronaut in history. Kononenko, who turned 60 in June, returned to Earth on 23rd September, alongside fellow cosmonaut Nikolai Chub and NASA astronaut Tracy Caldwell Dyson. The trio landed in Kazakhstan about 3.5 hours after undocking from the International Space Station (ISS).

Kononenko and Chub spent 374 continuous days on the

ISS, narrowly beating NASA astronaut Frank Rubio's record of 371 days. Meanwhile, Dyson completed a 184-day mission. During his five different missions since 2008, Kononenko broke the previous cumulative space record in February, surpassing Gennady Padalka's 878 days.

Reflecting on his time in space, Kononenko said, "Thanks to all my crewmates for your friendship. It has been a pleasure to work and spend time together here as a big family on board the ISS."

During his cumulative time in orbit, Kononenko made about 17,800 trips around Earth and completed over 44 hours of spacewalks. While he holds the record for the most time spent in space, he has not surpassed Valeri Polyakov's longest continuous space stay of 437 days.

Kononenko has not announced plans to retire but admits that preparing for missions has become more challenging over time. His record is likely to stand for years, as other active astronauts are far from reaching his total days in space. Although Russia plans to withdraw from the ISS by 2025, future missions may involve collaborations with China's Tiangong space station.

Smt Sumathi Ramakrishnan

Operation Sadbhav
Relief to Vietnam

In a gesture of solidarity and friendship, the Government of India launched Operation Sadbhav, an initiative to support countries affected by **Typhoon Yagi,** with a primary focus on humanitarian assistance to Vietnam. The typhoon, which recently swept through northern Vietnam left communities devastated underscoring the urgent need for relief.

Responding to the call for aid, India swiftly organized a shipment of essential relief supplies for Vietnam. A special aircraft carrying 35 tonnes of supplies departed for Vietnam, loaded with essential items such as water purification equipment, storage containers, blankets, kitchenware and solar lanterns. These items were chosen to address immediate needs, especially for families facing the challenges of limited access to clean water, power and safe shelter.

The operation highlights the longstanding bond between India and Vietnam, a relationship rooted in cultural ties and mutual respect. Over the years, India and Vietnam have cultivated a comprehensive strategic partnership grounded in shared values and mutual support, especially in times of adversity. This partnership has once again been exemplified through India's quick and coordinated response.

PM Modi expressed his condolences and solidarity with the people of Vietnam shortly after the typhoon struck. In a similar vein, India's External Affairs Minister, Dr. S. Jaishankar, reached out to Vietnam's Deputy Prime Minister and Foreign Minister, Bui Thanh Son, reaffirming India's commitment to helping the affected communities recover.

For both nations, the humanitarian mission is a testament to the strength and resilience of their friendship, extending beyond politics and economics into deep human connection. Operation Sadbhav serves as a reminder that in times of crisis, India remains a reliable friend, ready to stand alongside its partners.

As relief supplies reach affected regions, India hopes they will bring comfort to those in need and remind them that they are not alone in their journey to recovery. **This mission highlights India's commitment to a safer, more compassionate world where neighbors come together in times of need.**

Smt Silpa Nandakumar

Angkor Wat

Most photogenic UNESCO World Heritage site in Asia

An enormous Hindu-Buddhist temple complex in northern Cambodia, Angkor Wat, is named the most photogenic UNESCO World Heritage site in Asia. An architectural masterpiece, Angkor Wat is also the largest religious monument in the world and a 'must-visit' attraction for many adventurers.

The Prime Minister of Cambodia Hun Manet announced this through his official Telegram channel, with a **TOP-TEN list by Times Travel** of the Times of India newspaper. The list also includes India's Taj Mahal; Hampi, the capital of the ancient Vijayanagara Empire; the Great Wall of China in Beijing; Myanmar's ancient city of Bagan; Indonesia's Buddhist temple Borobudur; Vietnam's Ha Long Bay; the historic monuments of Kyoto, Japan; Jordan's historic and archaeological site Petra; and the Rice Terraces of the Philippine Cordilleras.

Angkor Wat was built in the first half of the 12th century, around the year 1110-1150, making it almost 900 years old. Ever since the temple complex was named a UNESCO World Heritage site in 1992, it has become a highly popular tourist attraction in Cambodia - welcoming 2 million visitors every year. Tourists from all over the world prefer to visit in the early hours of the day to witness the beautiful sunrise over the magical temple.

The heart and soul of Cambodia, Angkor Wat translates to "City of Temples" in the Khmer language. **Covering an area of 200 acres, the complex is protected by a 15-foot high wall and a wide moat**. During its glorious time, Angkor Wat included a city, temple and the emperor's palace. However, only the temple and walls that were built out of sandstone remain today. It is still home to the magnificent remains of 91 temples.

Angkor Wat is said to represent Mount Meru and the five towers represent the five peaks of Mount Meru. The walls signify the surrounding mountain ranges and the moat represents the sea. A visual wonder, the site offers endless inspiration for photographers seeking exquisite and unforgettable images.

Shri Ramaswamy R

Leaders across Nations

Country (s)	Area (km²) - Ranking	Population (millions)	Language	Capital	Currency (= 1 USD)	Economy (Global Ranking)
Jordan	89,342 - 112	11.6	Arabic	Amman	Dinar (1.41)	Lower middle income (89)
Sri Lanka	65,610 – 120	23.1	Sinhala and Tamil	Colombo	Rupee (0.0034)	Lower middle income (76)
Japan	377,930 – 62	123.8	Japanese	Tokyo	Yen (0.0067)	High income (04)
Mexico	1,972,550 – 13	128.5	Spanish	Mexico City	Mexican Peso (0.050)	High income (15)
Tunisia	163, 610 - 93	12.3	Arabic	Tunis	Dinar (0.032)	Middle income (81)

Sri Lankan Presidents and PMs during and after Civil War ended in 2009					
President	**From**	**To**	**Prime Minister**	**From**	**To**
Mahinda Rajapaksha	2005	2015	**Ratnasri Wickramasinghe**	2005	2010
Sirisena Maithripala	2015	2019	**Jayaratne**	2010	2015
Gotabaya Rajapaksha	2019	2022	**Ranil Wickramasinghe**	2015	2018
Ranil Wickramasinghe	2022	2024	**Mahinda Rajapaksha**	Oct'18	Dec'18
Dissanayaka	Sept'24	Incumbent	**Ranil Wickramasinghe**	2018	2019
			Mahinda Rajapaksha	2019	2022
			Ranil Wickramasinghe	May'22	Jul'22
			Gunawardene	2022	2024
			Harini Amarasurya	Sept'24	Incumbent

King of Jordan appoints new PM after elections

On 7th October 2023, Jordan's neighbour Israel suffered a terrible terror attack by Hamas ruling over Gaza. The reprisals by Israel caused even more tragic 30,000 deaths of Palestinians in Gaza. Since half the population of Jordan is of Palestine origin there was clamour for Jordan abrogating 1994 Peace Treaty with Israel.

Public anger dominated the parliamentary elections held in September 2024.

Under the kingdom's Constitution, the government resigns after legislative elections and it is the King who appoints the PM; the parliament has only limited powers. Islamic Action Front the political arm of Islamist Muslim Brotherhood was expected to sweep the polls but could win only 31 out of the 138 seats.

The King of Jordan, Abdullah II has appointed more moderate **Jafar Hassan (56)**, a technocrat and a former Minister **as the new PM.** Before arriving at the decision, the king had to weigh in the following.: i) Jordan's 1994 Peace Treaty with Israel, ii) dependence on USA and IMF for aid and iii) poor economic conditions.

Sri Lankan President Dissanayake picks Harini Amarasuriya as PM

Sri Lanka went for Presidential election in September 2024. The contestants were then incumbent President Wickramasinghe, Dissanayaka, Sajith Premadasa and Namal Rajapaksha. Dissanayake (55) was declared winner and sworn in as President later.

PM **Harini Amarasuriya** (54) was sworn in on 24th September. Harini is a University Professor and rights activist. She is the 3rd woman to occupy the post since Srimavo Bandaranaike (1960) and Chandrika Kumaratunga (1994). Both the incumbent President and PM are supposed to have Left and Marxist leanings. Whether Sri Lanka keeps neutral with respect to China and India, not provide undue access to Chinese Naval vessels etc., remain to be seen. Any change of guard in the island nation is security-wise important to us.

Harini and Dissanayake National People Power (NPP) alliance have only 3 MPs in the 225-member legislature which may be dissolved soon and NPP face elections to increase their MPs in the parliament.

Shigeru Ishiba becomes Japan's PM

Shigeru Ishiba (67) of the ruling Liberal Democratic Party (LDP) candidate and former defence minister, was sworn in as PM by

the Diet in October 2024. In his 5th attempt to lead LDP, Shigeru won a close contest in over 7 decades by 215-194 against right wing female contestant economic security minister Sanae Takaichi. Ishiba's predecessor Fumio Kishida when he stepped down was embroiled in several scandals.

Born to government official-teacher parents, Shigeru studied Law and was a banker before he switched to politics in 1983. In 1986, he contested as a candidate of LDP and was the youngest MP in the House.

Since 1993, Ishiba had served several ministries including agriculture and defence. He was also former PM Shinzo Abe's rival in the 2012 elections.

Presiding over world's fourth-largest economy, Ishiba has challenges of fighting deflation (reduction in goods and services prices over a period of time), improving wages, reducing dependence on nuclear energy and addressing security threats from China and North Korea. One of the major challenges was overcoming population decline. The low birth rate is a great cause for concern. He is also interested in putting up Asian style NATO and supporter of Taiwan's democracy.

Shigeru is considered a change agent inclined towards diversity and gender equality.

Sheinbaum leads as Mexico's first woman President

Claudia Sheinbaum Padro (62) President of Mexico since

October 1, 2024, is the first woman to occupy that post in their 200 years of independence. Born to Jewish parents both of whom were scientists, Sheinbaum herself holds PhD in Energy Engineering and has authored two books and over a hundred articles. Member of Party of Democratic Revolution (PRD) since 1989 and served as Secretary for Environment from 2000 to 2006, she joined in 2014 the splinter National Regeneration Movement known by abbreviation Morena.

Mayor of a borough from 2015 to 2017, Sheinbaum was elected in 2018 to head the Mexico City which was notorious for drugs, violence and crime. She gallantly fought against the vices through laws specific to city zones and their tough enforcement. The success and reputation earned were to stand in good stead when she contested the Presidential election. During her 6-year term Sheinbaum faces challenges to bridge the gap between the rich and poor, to check oppression of indigenous people, apart from having to fight the monstrous narcotics and related crimes.

Tunisia's President Kais Saied secures second five-year term

Kais Saied (66) has been re-elected President for a second term.

A jurist and assistant professor of law, Saied first contested in 2019 as an independent candidate with support from various parties across the political spectrum. In the beginning, Saied was a votary of social conservatism but over the years became dictatorial. To quell the protests over police brutality, economic conditions and Covid pandemic, Saied dismissed the parliament and the Prime Minister in July 2021 and has now given himself a new constitution with enormous powers.

Shri Mrithyunjay GN

Space X catches Starship rocket booster

On 13th October 2024 SpaceX launched its 400-foot-tall Starship vehicle for the fifth time from its Starbase site in South Texas. While on its own it would not be something remarkable as SpaceX is constantly testing to build reusable rockets; it is what happened after that marked a significant step forward towards their goal.

The Starship rocket that took off is called the **Super Heavy,** the most powerful rocket ever built. It consists of two stages. the Super Heavy booster and the Starship spacecraft. The Super Heavy booster, equipped with 33 engines, is designed to propel the spacecraft it is carrying into orbit. After separation, the booster returns to Earth and attempts a controlled landing.

Seven minutes after liftoff, SpaceX's Super Heavy did just that and returned to where it took off from. As it came close to landing, it began hovering near the launch tower.

Then came the magic moment - SpaceX's latest innovation. In a move that sent ripples across the rocket aviation community and a hail of cheers through SpaceX offices, the tower executed a complex maneuver known as "catching" the booster.

As the booster descended, a giant mechanical arm, dubbed "Chopsticks," extended from a launch tower and captured the falling rocket. This maneuver, which requires precise timing and control, was executed to perfection. As the booster must be slowed down and stabilized, it was safely secured back on the launch pad!

"This is a day for the engineering history books.This is absolutely insane! On the first-ever attempt, we have successfully caught the Super Heavy booster back at the launch tower," said Kate Tice, SpaceX manager of Quality Systems Engineering,

The booster catch was not the only goal of this flight. SpaceX also sent the Starship's 165-foot-tall upper stage of the rocket, known as Starship, to space and 65 minutes from launch brought it back to Earth with a splashdown, in the Indian Ocean.

While this achievement is a major milestone, SpaceX still faces numerous challenges in developing and perfecting the Starship system. The company will need to conduct further tests and refine its technologies to ensure the reliability and safety of future launches.

The successful catch of the Starship booster is a testament to SpaceX's relentless pursuit of technological advancement. **By reusing rocket components, SpaceX aims to reduce the cost of space launches and make access to space more affordable.** This could pave the way for ambitious missions to the Moon, Mars and beyond.

Shri Sampath D

India forges ahead

The key factors behind India's rise include economic growth on account of a strong economic recovery post pandemic, future potential on account of its youthful population, rise in diplomatic influence and its active engagement in multilateral forums.

India overtakes Japan as Asia's third most powerful nation

India has now surpassed Japan to become Asia's third most powerful nation, according to the Asia Power Index. **This shift in dynamics reflects India's increasing geopolitical stature, dynamic growth, youthful population and expanding economy.** One of the most significant findings in the 2024 Asia Power Index is India's steady rise in the regional power rankings. Witnessing a gradual rise, India is looking to achieve its full potential and exercise its influence in the region reflecting its stature as a geopolitical force.

The key factors behind India's rise include economic growth on account of a strong economic recovery post pandemic, future potential on account of its youthful population, rise in diplomatic influence and its active engagement in multilateral forums.

The Asia Power Index, launched by the **Lowy Institute** in 2018, is an annual measure of power dynamics in the Asia-Pacific region. It evaluates 27 countries across the Asia-Pacific, examining their ability to shape and respond to the external environment. . The index uses eight core measures such as Economic Capability, Military Capability, Diplomatic Influence etc. to assess the power of each country.

Unlike aging populations in China and Japan, India's youthful demographic is expected to fuel continued economic expansion and workforce growth in the coming years.

India rises to 39th place in Global Innovation Index 2024 among 133 economies

India has made a marked improvement by moving to 39th place among 133 global economies in the Global Innovation Index (GII) 2024. It is very notable since India was ranked 81st in 2015. The consistent improvement in the GII ranking is owing to the knowledge capital, vibrant start-up ecosystem and the amazing work done by the public and private research organisations.

The GII, started in 2007 by INSEAD - a business school, and World Business - a British magazine, provides a comprehensive measure of global innovation.

India's ranks

- 1st among lower-middle-income economies.
- 4th in the World Intellectual Property Organization (WIPO) Science & Technology (S&T) Cluster.
- 7th globally in intangible asset intensity.
- Mumbai, Delhi, Bengaluru and Chennai are listed among the World's Top 100 S&T clusters.

The GII 2024 evaluates the innovation ecosystem performance of 133 economies and tracks the latest global innovation trends. **It is considered a reliable tool for governments to assess innovation-led social and economic changes in their countries.**

India elected to GlobE Network Steering Committee

India secured a position in the 15-member Steering Committee of the GlobE Network, an international anti-corruption body, following a multi-stage voting process during the plenary session held in Beijing. This election places India in a pivotal role to influence the global anti-corruption agenda and asset recovery efforts. India's expertise and experience in tackling corruption will be valuable assets to the network.

The Ministry of Home Affairs serves as India's Central Authority for the GlobE Network, with the CBI and the ED acting as member authorities.

Initiated by G20, an inter-governmental forum, the GlobE Network was officially launched in 2021 during a special event at the UN General Assembly Special Session against Corruption (UNGASS). The network has since grown to include 121 member countries and 219 member authorities.

The GlobE Network is emerging as a platform where agencies worldwide share best practices, criminal intelligence and develop strategies to combat corruption collectively. During India's G20 Presidency in 2023, two High Level Principles for combating corruption were adopted, which detailed leveraging the GlobE Network.

India's triumph at WorldSkills 2024

The WorldSkills 2024 competition in Lyon, France witnessed a remarkable performance by the Indian contingent, showcasing the country's growing prowess in various skill domains on the international stage. India competed in 52 skills against global powerhouses. With an impressive haul of 4 Bronze medals and 12 Medallions of Excellence, India has firmly established itself as a rising force in the global skills arena.

The WorldSkills competition is a global platform where competitors demonstrate their technical abilities in a variety of skills. The 2024 competition saw over 1,400 participants from more than 70 countries, including competitors from China, Japan, Germany, and the USA. India's achievements were a testament to the nation's growing emphasis on skills and the potential of its youth.

India won Bronze medals in

- Patisserie and Confectionery
- Industry 4.0
- Hotel Reception
- Renewable Energy

India secured 12 Medallions of Excellence across various trades, including

- Mechatronics
- Web Technology
- Cabinet Making
- Jewellery
- Beauty Therapy
- Automobile Technology
- Cooking
- Car Painting
- Graphic Design Technology
- Cyber Security
- Water Technology
- Additive Manufacturing

Shri Mrithyunjay GN

EARTH'S NEW MOON

A temporary neighbour

Until 25th November, 2024, if someone asks you "How many moons does the earth have?" do not think that they don't have basic general knowledge. They are trying to trick you into saying 'one'. While you may normally be correct in saying that earth has only one moon, at least till 25th November, the correct answer is actually two!

Yes! Earth has gained a temporary celestial neighbour. A small asteroid, designated **2024 PT5**, has been captured by our planet's gravity, becoming a mini-moon. This newfound satellite began orbiting Earth on 29th September and is expected to go back into its original orbit around the Sun after a 2 month vacation around earth.

First observed on 7th August, 2024 PT5 is estimated to be about 10 meters in diameter, roughly the size of a school bus. Its small size (relative to other space objects) makes it invisible to the naked eye. Astronomers were alerted to its existence by the **Asteroid Terrestrial-impact Last Alert System** (ATLAS).

Designed to warn us about potential asteroid impacts, this system of sensors and telescopes detected 2024 PT5."The object belongs to the Arjuna asteroid belt, a secondary asteroid belt made of space rocks that follow orbits very similar to that of Earth at an average distance to the sun of about 93 million miles," research lead author and professor Carlos de la Fuente Marcos explains. He further went on to explain how these events happen when the asteroids approach close enough to earth to be caught in its gravitational pull and they end up orbiting earth for a short period of time.

This isn't the first time Earth has had a temporary mini-moon. Such events occur every decade or so, when asteroids are caught in our planet's gravitational pull. However, most of these mini-moons are much smaller and have even shorter orbital periods.

Some of our past temporary moons include

2006's RH120: Discovered in 2006, this mini-moon orbited Earth for about a year before escaping back into its solar orbit.

2020's CD3: This asteroid was captured by Earth's gravity in 2020 and remained in orbit for several months.

Kordylewski Clouds: These are two concentrations of dust particles located at the Earth-Moon Lagrange points. While they are not solid bodies like traditional moons, they're sometimes referred to as **Earth's hidden moons.**

The appearance of 2024 PT5 offers a unique opportunity for scientists to study a near-Earth asteroid up close. **By observing its orbit, composition and other characteristics, researchers can gain valuable insights into the formation and evolution of our solar system.**

As 2024 PT5 continues its brief tour around Earth, it serves as a reminder of the dynamic nature of our cosmos. While this mini-moon may not last long, **it offers a glimpse into the fascinating and ever-changing universe that surrounds us.**

Smt Sarada Devi Ravutu

Italy and Switzerland redraw alpine borders

Climate change refers to long-term shifts in temperatures and weather patterns. These shifts may be natural, but human activities have been the main driver of climate change that led to the melting glaciers in the Alps resulting in redrawing the mountainous border separating Italy and Switzerland.

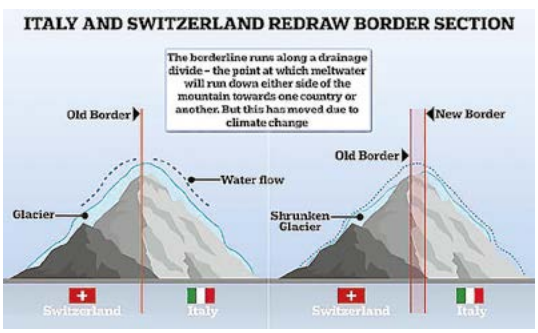
The change, which impacts about 330-foot-long border segment, is happening near one of Europe's most popular skiing destinations Zermatt and the iconic Matterhorn Mountain. One of the biggest glaciers near Matterhorn, the **Theodul Glacier,** retreated almost 1,000 feet between 1990 and 2015.

The melting resulted in the alteration of topographical details that raised new questions about the dimensions of the border between the two countries. In 2022, the jurisdiction of a glacial Italian mountain lodge came under question when melting ice revealed the mountain lodge was straddling the border.

Significant sections of the border are defined by the watershed or ridge lines of glaciers, firn, or perpetual snow, but these formations are changing due to the melting of glaciers.

When a glacier melts from the top, it alters the ridgeline topography, and in some cases, international borders.

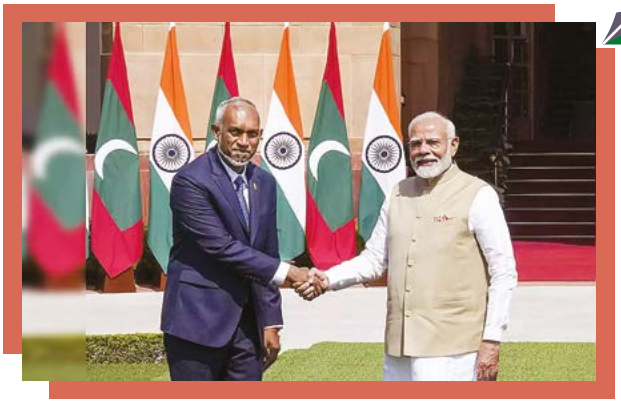
Swiss researchers have tallied more than 1,000 small glaciers lost to a warming climate. Venezuela lost its last glacier earlier this year. New Zealand has lost at least 264 glaciers, and the western United States has lost about 400 glaciers since the middle of the 20th century. East Africa has less than two square kilometres of total glacial ice remaining.



DO YOU KNOW ?

- **Mountain Lodge: A building in the mountains providing food and shelter for mountaineers.**
- **Ridge lines: A ridgeline is a long, narrow, elevated landform that connects mountain peaks with the terrain sloping down on either side.**
- **Glaciers in East Africa are found on the highest peaks of Mount Kilimanjaro, Mount Kenya and the Rwenzori Mountain.**

Smt T R Shubha



India and Maldives boost ties

India and the Maldives share ethnic, linguistic, cultural, religious and commercial links steeped in antiquity; and traditionally enjoy close, cordial and multi-dimensional relations.

Maldives is India's key maritime neighbour in the Indian Ocean Region (IOR) and occupies a special place in India's vision of 'SAGAR' and the 'Neighbourhood First Policy'.

Bilateral slide

President Muizzu's 'India Out' campaign rhetoric during the 2023 elections and his subsequent anti-India & pro-China stance and his minister's outburst against PM Modi worsened the diplomatic relationship between the two countries.

Bilateral reset

President Muizzu paid a 5-day visit to New Delhi in October 2024 to reset the slide in the relationship between the two nations. PM Modi and President Muizzu did a comprehensive review of the entire gamut of bilateral ties and agreed to work on a **Vision for Comprehensive Economic and Maritime Security Partnership.**

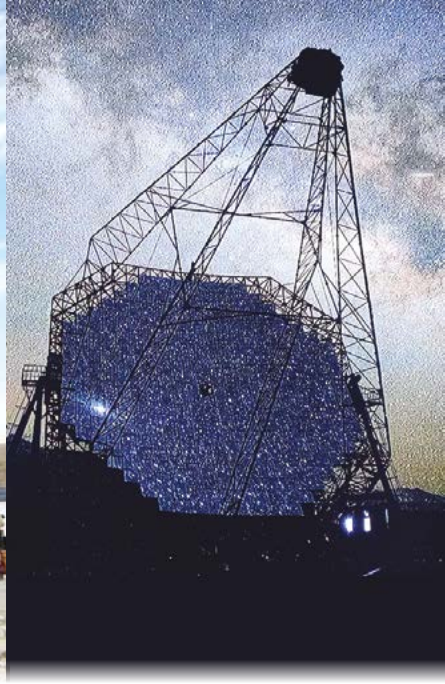
Highlights of the Partnership

- GoI will support Male in enhancing the surveillance and monitoring capability of the Maldivian National Defence Force by **providing radar systems and other equipment.**
- Maldives is amidst a foreign exchange crisis with an external debt of 110% of its GDP. India has extended significant **financial aid** by signing a USD 750 million **currency swap** which will help Maldives manage its forex needs and sustain trade and economic activities.
- Both nations will initiate discussions on **Free Trade Agreement** (FTA) to further deepen the economic ties beside counterbalance China's influence in the region.
- India helped build a **new runway at Hanimaadhoo International Airport.**
- GoI **extended the RuPay card service to Male** thereby strengthening the financial ties.
- India will **help build a commercial port** at Thilafushi Island, repair Maldivian Coast Guard ship, completion of Greater Malé Connectivity Project (GMCP) and expand tourism, agriculture in the region.
- MoU (Memorandum of Understanding) planned to facilitate exchange of parliamentary and local government representatives between the two nations.

DO YOU KNOW ?

- **In 1988, India sent military assets to successfully quell a coup attempt in Male.**
- **India as a 'First Responder' had assisted Male in combating water crisis in 2014 and provided vaccines during the Covid-19 pandemic. This reinforces the strategic layer to regional security.**

Kum Sunita D Behera



World's highest imaging Cherenkov Telescope

On 4th October, 2024, the world's highest imaging Cherenkov telescope, the **Major Atmospheric Cherenkov Experiment** (MACE) Observatory, located in Hanle, Ladakh was inaugurated. This observatory stands at an impressive 4,300 meters above sea level, making it not only the highest of its kind globally but also the largest imaging Cherenkov telescope in Asia. Built indigenously by the **Bhabha Atomic Research Centre** (BARC) with assistance from the **Electronics Corporation of India Limited** (ECIL), MACE is a significant step forward for India's cosmic-ray and high-energy astrophysics research.

Cherenkov telescopes like MACE are crucial in the study of high-energy gamma rays emitted from cosmic phenomena such as black holes, supernovae and gamma-ray bursts. When gamma rays interact with the Earth's atmosphere, they produce faint blue flashes known as **Cherenkov radiation.**

MACE captures these flashes to investigate the behaviour and origins of high-energy particles, thereby providing insights into some of the universe's most energetic events.

The inauguration of MACE took place during the Department of Atomic Energy's Platinum Jubilee celebrations, led by Dr. Ajit Kumar Mohanty, Chairman of the Atomic Energy Commission. Dr. Mohanty emphasized that this observatory places India at the forefront of global research in cosmic rays and high-energy astrophysics.

Located within the Hanle Dark Sky Reserve, MACE benefits from the low light pollution and high-altitude environment, ideal for observing faint cosmic signals. This also aligns with India's commitment to advancing in **multi-messenger astronomy** a field that combines observations from multiple types of cosmic messengers like light, gravitational waves and neutrinos.

Beyond scientific research, MACE is expected to drive socio-economic growth in Ladakh by creating educational opportunities and fostering interest in astrophysics among local students. Its establishment underscores India's growing role in international scientific collaborations and strengthens the nation's space research capabilities.

Hanle Dark Sky Reserve (HDSR) is a science-driven sustainable development project in Ladakh. The region around Hanle village in Ladakh has one of the darkest skies in India. Due to its superior sky conditions, it is home to the Indian Astronomical Observatory of the Indian Institute of Astrophysics, Bengaluru. A region of roughly 22 km radius around Hanle, inside the Changthang Wildlife Reserve, is declared as HDSR.

Kum Shrivaishnavi R

Inauguration of CREATE in Leh

The mountain-top region of Leh in Ladakh is teeming with art, culture and tourism. Keeping the scope of development of this place in mind, the Union Minister of Micro, Small and Medium Enterprises (MSME), Jitan Ram Manjhi, inaugurated the **Centre for Rural Enterprise Acceleration through Technology** (CREATE). The event, which was organised virtually, was attended by the Minister of State for MSME, Shoba Karandlaje, Lieutenant Governor of Ladakh, Brigadier (Dr) BD Mishra (Retd) among others.

The Centre has been initiated by the **Khadi and Village Industries Commission** (KVIC) in partnership with the Department of Industries and Commerce, Union Territory of Ladakh. CREATE was set up with the intention of boosting the performance of small rural industries using technology. The initiative comes as a welcome step since trade and industry stand at a disadvantage due to the difficult terrain. The integration of technology will help improve employment and also **promote specialties of Ladakh**, such as Pashmina production.

The goats native to Ladakh are used to produce **Pashmina wool,** which have a high mortality rate due to lack of infrastructure. The Centre has provided the goat farmers with pens for the goats, regular veterinarian visits and nutritious food for them, ensuring the livelihood of these traders and the safe rearing of the goat kids. Additionally, provisions are being made to further tourism in the region by **hosting festivals** like the Ladakh Apricot Festival and increasing apricot production.

Other steps such as setting up of Pasteurization plants to take care of the nutritional needs of the people – both native and the defence personnel – are also being actively encouraged and implemented. Highlighting the **role of women in the trading sphere** in the region, PM's Lakhpati Ladies initiative was also mentioned. The Centre's executives recognize the efforts and contributions made by female entrepreneurs in the area, uplifting it holistically.

The Centre's objectives to stimulate the revenue from the mountainous region of Ladakh, along with the challenges associated were touched upon during the inauguration ceremony.




Smt Meenakshi S

PM addresses UN General Assembly

PM Modi arrived at the 79th U.N. General Assembly session to give his address at the **Summit of the Future** in New York. The Summit was a premier gathering of global leaders, aimed at building a new international consensus for creating a better present and securing the future. The theme of this year's summit was **Multilateral Solutions for a Better Tomorrow** and saw the participation of many world leaders. It concluded with the adoption of A Pact for the Future and two annexes: the Global Digital Compact and A Declaration on Future Generations.

In his address the Prime Minister emphasized the importance of collective strength for the success of humanity, stating, **"Success of humanity lies in our collective strength, not in the battlefield."** He underlined the need for reforms in global institutions as being essential for achieving global peace and development, asserting that **"Reform is the key to relevance."** The urgent need for coordinated global efforts to combat various threats to international peace and security was highlighted. He stated that terrorism remained a significant menace, jeopardizing global stability. It must also be acknowledged that new arenas of conflict are emerging, particularly in cyber, maritime and space domains.

Key highlights from
PM Modi's Address at
United Nations | Summit of the Future

Prime Minister's address resonated with the ongoing discourse on global security and the need for proactive measures to counteract both traditional and modern threats. As the international landscape continues to evolve, PM Modi's call for enhanced cooperation served as a reminder of the collective responsibility that countries share in safeguarding peace and promoting a secure future for all. PM also called for balanced regulations for the safe and responsible use of technology. He advocated for a global digital governance framework that maintains sovereignty and integrity, insisting that India's Digital Public Infrastructure (DPI) should act as a bridge, not a barrier. He declared that for the global good, India was ready to share its DPI and reaffirmed the commitment to the philosophy of **"One Earth, One Family, One Future"**.

Following this the Prime Minister addressed the Indian community at Nassau Coliseum, where he praised the diaspora as "Strong brand ambassadors of India." He referred to them as *"Rashtradoot,"* emphasizing their vital role in representing India abroad. He spoke about his performance in the recently concluded general election, highlighted the government's achievements in the past 10 years and the plans for the future. PM Modi met the U.S. tech CEOs, showcasing India's evolving role as a hub for technology and innovation.

He stressed the importance of **"Design in India"** to create unique offerings for the global market and announced a significant USD 15 million investment in the semiconductor sector, further solidifying India's position in the global tech landscape. Overall, PM's address reflected a vision of collaboration and shared growth, aiming to position India as a leader in sustainable development and technological advancement on the world stage.

Shri Sampath D

India excels in sports

Indian Men's hockey team win Asian Champions Trophy 2024

Indian men's hockey team defeated China 1-0 in the final of the 2024 edition and were crowned Asian Champions. I**ndian hockey team led by Harmanpreet lifted the trophy for a record-extending fifth time.** Harmanpreet, notably, finished as India's leading goal-scorer and second in the overall tally with seven goals - two field goals and five penalty corners. He was named the **Player of the Tournament.** The successful title defence at the 2024 edition, held in China, signifies the team's consistent growth.

The first edition of the Asian Men's Hockey Champions Trophy was played in 2011. India emerged as the inaugural winners with Rajpal Singh leading the team.

The men's title continued to shift back and forth between the two Asian heavyweights namely India and Pakistan, until South Korea broke the trend in 2021.

In 2023, roughly six months after a forgettable ninth-place finish at the World Cup, the Indian men's hockey team had its first major test at the Asian Champions Trophy in Chennai under Craig Fulton, the successor of coach Graham Reid. The Men in Blue did have a few hiccups, including a two-goal deficit in the final against Malaysia at one point, but managed to clinch the title in front of the home crowd.

Post the tournament in Chennai, the side won a gold medal at the Asian Games in Hangzhou, one of the qualifying events for the Paris Olympics. The Indian team clinched its second straight bronze medal at the Summer Games. The Indian hockey team, having secured fifth spot in the FIH rankings.

It was the only Asian outfit amongst the 12 participants and turned out to be the only side that did not lose its place on the podium from Tokyo 2020. It also gives perspective to the increased gap

between the tricolour nation and other Asian nations in terms of efficient and high-quality hockey.

India achieved a monumental victory marking a significant moment in the country's sporting history. This victory is a testament to the incredible talent, determination and strategic prowess of our chess players, who have worked tirelessly to bring home this prestigious title.

India's historic triumph at the 2024 Chess Olympiad

The 2024 Chess Olympiad in Budapest, Hungary has etched itself into the annals of Indian sports history. In an unprecedented achievement, India secured gold medals in both the men's and women's team categories, marking a watershed moment for chess in the country.

The Indian team showcased brilliant performances throughout the tournament, competing against some of the strongest teams in the world. This win not only highlights the growing strength of Indian chess but also puts India firmly on the global map as a chess powerhouse.

India was declared a joint winner in the men's competition along with Russia in the 2020 edition, which was held online during the COVID-19 pandemic.

India walked away with four individual gold medals as the tournament wrapped up in the Hungarian capital. The performance of these young stars underscores India's bright future in chess. This will also pave way for more youngsters taking to Chess and the environment looks extremely positive in this sport.

Wins for **Gukesh Dommaraju, Rameshbabu Praggnanandhaa** and **Arjun Erigaisi** sealed gold in the men's event, known as the Open event, while **Harika Dronavalli, Vaishali Rameshbabu, Divya Deshmukh, Vantika Agrawal,** and **Tania Sachdev** won their respective games to secure gold in the women's competition.

Gukesh, Arjun, Divya and Vantika bagged individual gold medals in their respective boards.

Eighteen-year-old Deshmukh was a standout performer in the women's competition and remained undefeated, winning seven of her 11 games and drawing four.

This dual triumph places India in an elite group, joining only China and the former Soviet Union as nations to have won gold in both categories in a single Olympiad edition.

India's success extended beyond individual team performances. **Our country successfully defended the Gaprindashvili Trophy, awarded to the nation with the best overall performance across both open and women's sections.**

Shri Bharath

Ratan Tata

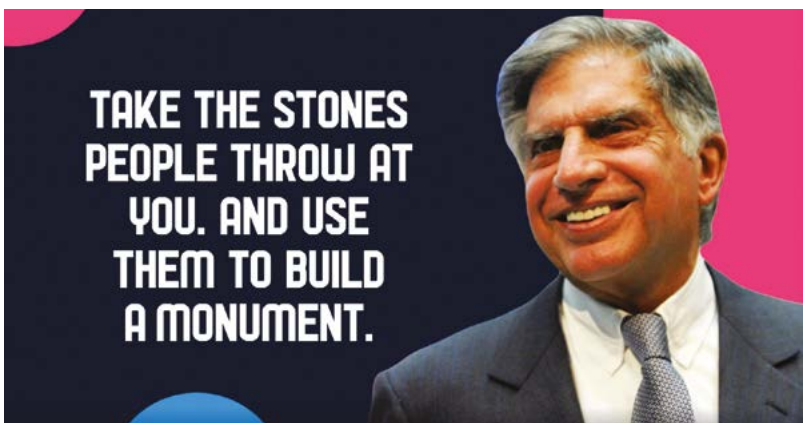
Gem of a nationalist

On 9th October 2024, Ratan Tata, Chairman Emeritus of the Tata Group breathed his last, at the age of 86. In his passing away India has lost, not only a visionary, philanthropist and a doyen of the industry but a great nationalist too. After taking over as the chairman, he transformed the Tata Group and made it truly global.

The elevation and the assertion

Ratan Tata was elevated as the Chairman of the group in 1991 at the age of 53. Though he had enough experience in the Tata Sons board in which he was a member from the 1970s and was involved in the leadership of various businesses of the group, it was not a cake walk for him.

At the time of his elevation the Tata group had much older and experienced veterans heading businesses. Russi Mody at TISCO, Darbari Seth at Tata Chemicals and Nani Palkhivala at the ACC were some of those who were eminently qualified to head the Tata group. However Ratan Tata had some credentials that these gentlemen did not possess.



He was much younger with many years of active leadership ahead of him. He had done enough research for the preparation of the strategic plan for the Tata Industries and had an idea bank. He also had a personal interest in emerging technologies and sunrise sectors. These were probably the reasons why J.R.D.Tata chose him over the others. To clear the road blocks on his path he had to invest a lot of time, energy and strategy. He managed to get rid of the Chairmen of TISCO and the Indian Hotels with some smart boardroom manoeuvres. To secure the exit of the other holdovers of the earlier era, he introduced a lucrative "special retirement scheme". From 1999 the "veterans" started to step down in quick succession and a generational change happened.

Business strategy

Ratan Tata felt that the leaders of the various group companies were treating the businesses like their private fiefdoms and had

drifted from the core values of the Group. His first initiative therefore was centralization. Some of the other initiatives were:

- A new thrust on quality
- Championing technology
- Selling underperforming sectors
- Strengthening core businesses (Iron & Steel, Commercial vehicles, Tea etc.)
- Venturing into new areas (Telecommunications, Passenger cars, Insurance, Finance, Retail and Aviation).
- Making global acquisitions (Jaguar Land Rover, Tetley and Corus)

No wonder the group scaled new heights under his stewardship. The revenues grew from USD 4 Bn to USD 100 Bn between 1991 and 2012, the year he stepped down and made Cyrus Mistry the Chairman. During the same period the market capitalisation of the group grew by over 30 times.

The nationalist

Ratan Tata's initiative to bring out the Nano car at a price of INR 1 lakh was a nationalistic initiative. **The main goal was to make cars affordable to the Indian middle class and provide them safe mobility. It also gave a thrust to innovation and frugal engineering.**

He felt that under a communist rule for over three decades WB had lost out on development and both WB and the eastern region of India should do some catch up and that is the reason he chose Singur in WB for the project, despite the fact that many states had laid out the red carpet. Unfortunately shortsighted and narrow politics spoiled this initiative and WB lost out to Gujarat.

Motivated by his desire to develop the North East, the Tata group invested in cancer care hospitals in Assam recently. The group is also investing ₹27,000 crores in TSAT (Tata Semiconductor Assembly and Test Pvt. Ltd.) which will commence production in 2026 and provide direct employment to 25,000 people in Assam.

The Tata group may fill the void created by the passing away of Ratan Tata the industrialist. **But it is well-nigh impossible to fill the void created by the demise of Ratan Tata the nationalist.**

Om Shanti!

Kum Pavithra S

19th Divya Kala Mela unveiled

The 19th Divya Kala Mela, an initiative of the Ministry of Social Justice and Empowerment, Government of India, was unveiled in Visakhapatnam. Governor S. Abdul Nazeer inaugurated the event, joined by Union Minister Dr. Virendra Kumar and other dignitaries. The event took place from 19th to 29th September 2024.

Concessional loans were distributed to 10 Divyang beneficiaries under NDFDC schemes, supporting their entrepreneurial aspirations. Assistive devices were also distributed with CSR partner support. **Over 100 Divyang artisans from 20 states and union territories showcased their skills in handicrafts, handlooms, embroidery and packaged foods.**

Notable participants include Naveen Kumar Gautam, creator of eco-friendly stationery products and Surinder Kumar from Haryana, showcasing camel leather craftsmanship. A differently-abled couple from West Bengal showcased handmade curtain holders and jewellery. The Department of Empowerment of Persons with Disabilities facilitated soft loans of up to ₹50 lakh for self-employment of the differently-abled at 4-8% interest. Since 2014, 1.52 lakh beneficiaries received loans worth ₹1,047 crore.

The event promotes inclusivity, social integration and economic empowerment. Dr. Virendra Kumar emphasized the Ministry's commitment to empowering divyangjan. The 11-day event at Marine Ground, Andhra University, features cultural performances, regional cuisine, exhibitions and food stalls. Dignitaries took a ***Swachhata* Pledge,** reinforcing hygiene and community responsibility.

This initiative supports the government's **"Vocal for Local"** initiative, promoting financial independence among Divyang entrepreneurs. The Divya Kala Mela celebrates India's diverse artistic heritage, empowering artisans with disabilities. The festival's success demonstrates India's dedication to inclusivity, providing opportunities for artisans to shine.

Highlights

- 64 stalls representing 20 states.
- ₹40 lakh in concessional loans awarded to 10 divyang beneficiaries.
- Distribution of assistive devices for enhanced accessibility.
- Soft loans up to ₹50 lakh for self-employment initiatives.

Smt Shyamala Viswanathan

Food Safety Index 2024
Kerala retains top spot

In the Food Safety Index 2024, Kerala has secured the top position for the second consecutive time. Tamil Nadu, Jammu & Kashmir and Gujarat are some other states in the first five positions.

What is Food Safety Index?

It is an annual ranking (first introduced in 2019), released by the Food Safety and Standards Authority of India (FSSAI), a statutory body headquartered in Delhi launched under the administration of the Ministry of Health and Family Welfare, Government of India in 2006. The index serves as a dynamic model for benchmarking food safety standards across all states and union territories in India.

States are classified into three categories: large states, small states and union territories; their performance is evaluated on qualitative and quantitative measures. It is based on key parameters such as

- Human resources and institutional data
- Compliance
- Food testing infrastructure and surveillance
- Training and capacity building
- Consumer empowerment

The rankings were revealed by Union Health Minister J.P. Nadda at the Global Food Regulators Summit (GFRS) 2024 during the World Food India event, which celebrated the advancements states have made in food safety initiatives.

DO YOU KNOW ?

- The tagline *'Sahi Bhojan; Behtar Jeevan'* is the motto of FSSAI.
- The Nordic diet is often cited as one of the healthiest diets in the world – and it is good for the planet too. It typically focuses on minimally processed, locally sourced foods found in the Nordic countries – Norway, Denmark, Sweden, Finland and Iceland.
- Freezing can slow down bacterial growth in foods but won't stop it completely. This is particularly true for foods that are not cooked thoroughly before freezing.
- You should never leave frozen food on the counter for thawing at room temperature. The right way to thaw food is by keeping it in the refrigerator or placing it under cold, running water.
- Unsafe food containing harmful bacteria, viruses, parasites or chemical substances causes more than 200 diseases – ranging from diarrhoea and vomiting to cancers.
- Diarrhoeal diseases are the most common illnesses resulting from the consumption of contaminated food, causing 550 million people to fall ill and 2,30,000 deaths every year.

Kerala's exemplary performance in 2024 is attributed to several factors. According to reports the state exceeded its inspection targets, improved food-testing infrastructure and conducted special drives to increase the number of licensed food operators. These initiatives have propelled Kerala to the forefront of food safety in the nation.

It is imperative that in today's world, given the challenges posed by foodborne illnesses, nutraceutical safety, novel foods, and micro plastics, there is a major need for need for continuous collaboration, innovation, and improvement in food safety systems

This year's top five states

- Kerala
- Tamil Nadu
- Jammu & Kashmir
- Gujarat
- Nagaland

A nutraceutical is food or part of a food that provides medical or health benefits, including the prevention and/or treatment of a disease.

Open water swimming expedition to *Andaman & Nicobar islands*

Shri Nagarajan R

Raksha Mantri Rajnath Singh officially flagged-in a first-of-its-kind Open Water Swimming Expedition to the 21 islands of the Andaman & Nicobar archipelago, named after Param Vir Chakra (PVC) awardees. This unique tribute commemorates the renaming of these islands by PM Modi on 23rd January 2023, during **Parakram Diwas,** honouring the gallant heroes who received India's highest military decoration for bravery.

Launched by the Tri-service Andaman & Nicobar Command, '**Expedition Param Vir'** was undertaken to mark the first anniversary of the islands' renaming. A team comprised of personnel from the Indian Army, Navy, Air Force and Coast Guard swam to each of the 21 islands, covering over 300 kilometres. The 11-member team, led by open water swimmer and Tenzing Norgay National Adventure Awardee Wing Commander Paramvir Singh, unfurled the national flag at each island, paying tribute to the 21 PVC awardees.

The expedition began on World Water Day, 22nd March 2024, and culminated on India's 78th Independence Day, 15th August 2024. The final swim was undertaken by 78 personnel from the Armed Forces and the Coast Guard, swimming from the Netaji Subhas Chandra Dweep to the Shri Vijaya Puram.

Rajnath Singh lauded the bravery and determination of the team, who successfully completed the expedition despite challenges such as turbulent sea conditions, extreme exhaustion, dehydration and encounters with deadly marine life. He emphasized that the expedition aligned with the Government's efforts to keep the legacy of the nation's heroes alive, inspiring the youth to draw strength from their courage and sacrifice. He expressed his hope that the Armed Forces will continue to bring pride and honour to the nation, encouraging future generations to follow the example of these brave hearts.

The expedition adhered to international standards for 'Unassisted Open Water Swim,' with swimmers wearing only trunks, goggles and caps. **Despite the majority of participants being first-time open-water swimmers, the expedition was completed without a single mishap, showcasing the exceptional preparation, skill and resilience of the Armed Forces.**

Smt Manju Aildasani

Indigenous 700 MWe nuclear reactor achieves criticality

India's third home-built 700 MWe nuclear power reactor has achieved criticality and is expected to start commercial electricity generation soon, Nuclear Power Corporation of India Limited (NPCIL) said. The nuclear power reactor that achieved criticality on 19th September 2024 is the first of a new series of **Pressurised Heavy Water Reactors (PHWRs)** to be built at Rajasthan Atomic Power Project in Rawatbhata.

DO YOU KNOW ?

- **The agreement for India's first nuclear power plant, Rajasthan Atomic Power Plant Unit-1 (RAPP-1), was signed in 1963, followed by the agreement for RAPP-2 in 1966.**
- **Located in Rajasthan, these reactors were developed with specific safeguards in place to ensure that they could not be used for military purposes. RAPP-1 officially began operations in 1972, marking a significant milestone in India's nuclear energy programme.**
- **The RAPP 7 & 8 project is being set up in Rawatbhata, where six units with a total capacity of 1,180 MWe are already in operation.**
- **NPCIL currently operates 24 reactors with a total capacity of 8,180 MWe and has eight units (including RAPP-7) with a capacity of 6,800 MWe under construction.**
- **In addition, 10 more reactors with a total capacity of 7,000 MWe are in pre-project phase and are expected to be completed progressively by 2031-32.**

Earlier, two 700 MWe PHWRs started commercial operation at Kakrapar Atomic Power Station (KAPS) in Gujarat. The NCPIL said RAPP-7 was the third in the series of 16 indigenous PHWRs of 700 MWe each being set up in the country. These reactors are part of India's ongoing nuclear power expansion efforts.

Prior to RAPP-7, the first two reactors in this series to become critical were Units 3 and 4 of the Kakrapar Atomic Power Station in Gujarat, which achieved criticality in 2020 and 2023, respectively.

Criticality is the normal operating condition of a reactor, in which nuclear fuel sustains a fission chain reaction. A reactor achieves criticality (and is said to be critical) when each fission event releases a sufficient number of neutrons to sustain an ongoing series of reactions. It means the plant is now set to generate power.

Smt Anuradha V R

CSIRT-Power to combat cyber threats

Union Minister of Power and Housing & Urban Affairs Manohar Lal inaugurated the **Computer Security Incident Response Team** – Power (CSIRT-Power) at Northern Regional Power committee in New Delhi.

Manohar Lal underscored the evolving nature of cyber threats, which have become a national security concern. "Cyberattacks today are capable of causing significant disruptions with far-reaching consequences. The CSIRT-Power is our proactive response to defend our power systems against such evolving threats," he stated.

In alignment with the National Cyber Security Policy of 2013, the Ministry of Power, in collaboration with CERT-In, launched this initiative as part of its 100-day action plan to establish a specialized incident response team equipped with state-of-the-art infrastructure and cybersecurity tools. This facility is set to coordinate incident responses, establish a robust cybersecurity framework and implement crucial measures to enhance the sector's overall preparedness and resilience.

The centre will serve as the nucleus for cybersecurity in the power sector, ensuring a prompt and coordinated response to cyber incidents and threats.

Additionally, the centre is tasked with enhancing cybersecurity resilience through a structured approach which includes collecting, analysing and sharing information on sector-specific cyber threats, implementing proactive measures to increase cybersecurity awareness and improving the overall cybersecurity posture of the power sector.

The facility also aims to promote best practices, Standard Operating Procedures (SOPs) and security policies specific to the power sector, alongside providing cybersecurity expertise and assistance to constituent utilities.

Through capacity building measures such as training, development of standards and incident response drills, as well as collaboration with educational institutions and industry, CSIRT-Power will enhance cybersecurity measures across the board.

Computer Security Incident Response Team (CSIRT)

- A computer security incident response team, or CSIRT, is a group of IT professionals that provides an organization with services and support surrounding the assessment, management and prevention of cybersecurity-related emergencies, as well as coordination of incident response efforts.
- The main goal of a CSIRT is to respond to computer security incidents quickly and efficiently, thus regaining control and minimizing damage.

Why is it the need of the hour?

The establishment of CSIRT-Power comes at a crucial time as the power sector is undergoing a significant digital transformation, expanding the attack surface and increasing vulnerabilities.

Existing sub-sectoral Computer Emergency Response Teams (CERTs) were found lacking in legal mandates, resources and skilled personnel to effectively handle sophisticated cyber threats.

CSIRT-Power aims to fill this gap.

Kum Kavya R

Nation's stride in agriculture

ICFA
भारतीय कृषि एवं खाद्य परिषद्

AWaDH
Agriculture and Water Technology Development Hub

India Digital Agri Conference 2024

The India Digital Agri Conference 2024 was held on 11th October 2024 in New Delhi, co-organised by ICFA and IIT Ropar TIF-AwaDH. The event focused on using digital technologies like AI, IoT, drones and data analytics to address challenges such as climate change, food security and sustainable resource management. By bringing together policymakers, industry experts, entrepreneurs, academicians, researchers and farmers, the event will help shape the future of agriculture in the digital era, positioning it for sustainable growth and development.

The chief guest at the event, Dr. Devesh Chaturvedi, Secretary, Department of Agriculture & Farmers, highlighted the importance of the Digital Agriculture Mission. The mission aims to leverage technology to empower farmers with real-time information and support systems, enabling better decision-making and boosting rural livelihoods.

The day-long event primarily covered three topics:

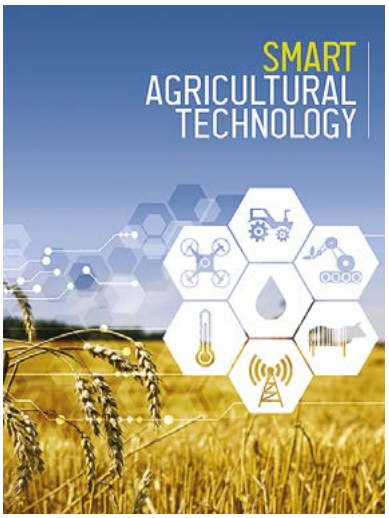
- **Climate-smart agriculture:** Exploring tools and technologies to enhance agricultural resilience to climate change;
- **Precision farming:** Data-driven practices for improving sustainability and resource efficiency.
- **Innovation in agri-tech:** Leveraging cutting-edge technologies to drive agricultural growth and development.

- **Indian Chamber of Food and Agriculture (ICFA)** is an apex body in India that works on business, policy and development agendas; also serves as a global platform for trade facilitation, partnerships, technology and agribusiness services.
- **AWaDH** - Agriculture & Water Technology Development Hub
- **TIF** - Technology & Innovation Foundation

This event not only addressed the current challenges in agriculture but also laid the groundwork for future strategies that will position India as a leader in the global agri-tech ecosystem.

Mizoram launches 'Bana Kaih' scheme to support farmers and entrepreneurs

On 19th September 2024, Mizoram Chief Minister Lalduhoma inaugurated the *'Bana Kaih'* scheme in Aizawl, aiming to boost financial independence for local farmers and small entrepreneurs. The initiative, with an allocated budget of ₹200 crore for financial year 2024-25, aims to stabilize income by ensuring government procurement of essential crops, including ginger, turmeric, Mizo chili and broomsticks, at guaranteed minimum prices. The state



government had also allocated ₹110 crore for agricultural assurance in the 2023-24 fiscal. Additionally, the programme offers accessible loans and possible 100% interest subvention for those who diligently repay them.

Agriculture Minister PC Vanlalruata said more than 45,500 farmers have so far been registered on the government portal for the purchase of crops, adding that over 1,08,400 metric tonnes of ginger, 7,749.2 metric tonnes of turmeric, 3,677.4 metric tonnes of Mizo chilli, and 12,000 metric tonnes of broomsticks are expected to be produced at the end of the harvest this year.

The chief minister said the scheme has been conceived and devised for diligent and hard-working people who desire progress; the government will apply strict norms in the selection of beneficiaries. The beneficiaries will be selected by search committees of the implementing departments after scrutiny.

Through this initiative, Mizoram aims to enhance agricultural production, strengthen market access and support small-scale industry growth, promoting sustainable economic development.

Smt Archana Sundar

India's largest blast furnace commissioned

Tata Steel has redefined the landscape of Indian steel production with the commissioning of its largest blast furnace at Kalinganagar, Odisha. This significant expansion, part of the Phase II project, marks a major milestone in the company's journey towards sustainable and efficient steelmaking.

With a total investment of ₹27,000 crore, the expansion has increased the plant's capacity from 3 million tonnes per annum (MTPA) to a substantial 8 MTPA. **The new blast furnace, boasting a volume of 5,870 cubic meters, is equipped with cutting-edge technology that ensures long campaign life, optimized production and minimal environmental impact.**

Highlights

- **State-of-the-art technology:** The blast furnace incorporates advanced features like four top combustion stoves (a first in India), a dry gas cleaning plant and a world-class Top Gas Recovery Turbine.
- **Enhanced sustainability:** The facility is designed to minimize water consumption, reduce carbon emissions and maximize energy recovery.
- **Increased production capacity:** The expansion will significantly boost Tata Steel's ability to meet the growing demand for steel in various industries, including automotive, infrastructure and shipbuilding.

The commissioning not only solidifies Tata Steel's position as a global leader in the steel industry but also showcases the company's commitment to innovation and sustainable development. As India continues to grow and modernize, Tata Steel's furnace is poised to play a pivotal role in meeting the nation's steel needs.

A top gas recovery turbine (TRT) is a technology that uses the energy and heat from blast furnace gases to generate electricity. TRTs are used in most modern steel plants and can provide up to 30% of the power needed to run the blast furnace.

Smt Sandhya Nair

Peak named after Dalai Lama

A 15-member team led by Colonel Ranveer Singh Jamwal from the **National Institute of Mountaineering and Adventure Sports (NIMAS)** scaled the unclimbed peak at Gorichen range near Tawang in West Kameng district on 21st September. The expedition began on 7th from NIMAS base at Dirang in Arunachal Pradesh.

The 20,942-foot-high peak was one of the most technically challenging and unexplored summits in the region. The mountaineers had to overcome ice walls, crevasses and a glacier that was two kilometers long.

The peak was named after Tsangyang Gyatso, the 6th Dalai Lama, who was born in Tawang in 1682. The name pays tribute to his wisdom and contributions to the Monpa community, the only nomadic tribe in Northeast India.

Arunachal Pradesh Chief Minister Pema Khandu congratulated the NIMAS team for their accomplishment He said that the historic climb celebrated Arunachal Pradesh's rich cultural heritage and also makes the region a key destination for mountaineering and adventure sports.

The controversy

The peak, located in a region claimed by China as part of its territory, has sparked a fresh diplomatic controversy. China insists that Arunachal Pradesh is

part of its territory, referring to it as *"Zangnan."* China's discontent also stems from the symbolic significance of the Dalai Lama, an institution representing Tibet's independence prior to Chinese control.

The Dalai Lama institution holds great importance for Tibetan culture and history. The peak's naming is seen as a reaffirmation of Tibet's historical and cultural ties to India.

The naming of the peak, beyond its geopolitical implications, highlights the deep historical and cultural connections between Arunachal Pradesh and Tibet, reinforcing India's longstanding ties to the region.

Ministry of Tourism's initiatives

Launch of 'Cruise Bharat Mission'

Union Minister for Ports, Shipping and Waterways, Sarbananda Sonowal, launched the 'Cruise Bharat Mission' from Mumbai port recently. The mission aims to enhance India's potential as a global hub for cruise tourism, targeting a doubling of cruise passenger traffic by 2029.

Phases of the Cruise Bharat Mission

- **Phase 1 (October 2024 – September 2025):** Conducting studies, master planning and forming cruise alliances with neighbouring countries, modernizing existing cruise terminals, marinas and destinations to enhance cruise circuits.
- **Phase 2 (October 2025 – March 2027):** Developing new cruise terminals, marinas and destinations to activate high-potential cruise locations and circuits.
- **Phase 3 (April 2027 – March 2029):** Integrating all cruise circuits across the Indian subcontinent, ensuring the maturity of the cruise ecosystem while continuing infrastructure development.

Key performance targets

- **Sea cruise passengers:** 0.5 million to 1 million
- **Sea cruise calls:** 125 to 500
- **River cruise passengers:** 0.5 million to 1.5 million
- **International cruise terminals:** 2 to 10
- **River cruise terminals:** 50 to 100

Paryatan Mitra and Didi initiatives

On the occasion of World Tourism Day, the Ministry of Tourism launched a national responsible tourism initiative titled ***Paryatan Mitra*** and ***Paryatan Didi***.

Aim

- To elevate the overall experience for tourists in destinations.
- To create a more welcoming, hospitable and memorable experience for tourists in India.

How

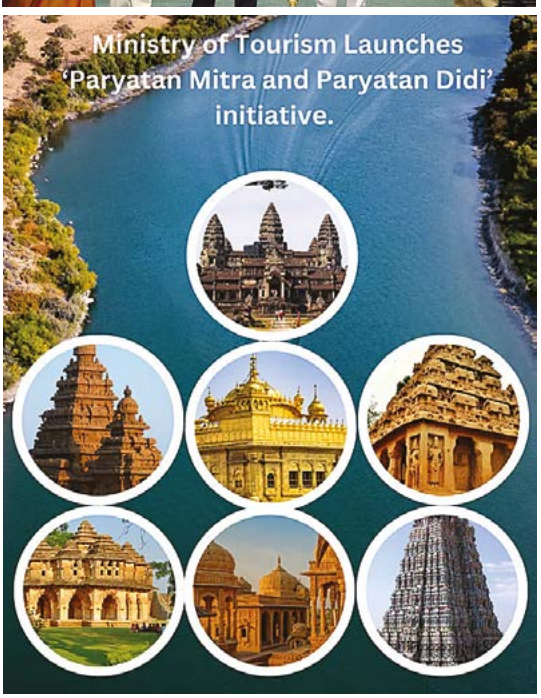
- By making the tourists meet 'tourist-friendly' people who are proud Ambassadors and Storytellers for their destination.
- Piloted in six tourist destinations across India: Orchha (Madhya Pradesh), Gandikota (Andhra Pradesh), Bodh Gaya (Bihar), Aizawl (Mizoram), Jodhpur (Rajasthan), and Sri Vijaya Puram (Andaman & Nicobar Islands).

Highlights

- Local stakeholders - cab drivers, hotel staff, tour guides, street vendors and police personnel are being trained to act as "Paryatan Mitras" to enhance the tourist experience through storytelling and local pride.

Training focus areas

- **Tourism-specific skills:** Heritage walks, food tours, craft experiences, homestays and nature treks.
- **Hospitality and sustainability:** In line with the philosophy of *'Atithi Devo Bhava.'*
- **Digital literacy:** Ensuring that new tourism products are visible to global audiences.



- Gainful employment for locals as homestay owners, food & cuisine experience providers, cultural guides, natural guides, adventure guides and other roles in tourism.

Best tourism villages competition – 2024 winners

The Union Ministry of Tourism announced the winners of the Best Tourism Villages Competition 2024 (2nd edition) on the occasion of World Tourism Day 2024. The award given under a total of 8 different categories honours a village that best exemplifies a rural tourism destination.

Goal: To make tourism one of the drivers of positive change, rural development and community well-being.

Objectives of the competition

- Reduce disparities between developments of rural tourism destinations.
- Progress in empowering the rural population.
- Enhance attraction capability and encourage rural change.
- Strengthen multi-level governance, collaborations and community engagement.
- Boost connection, infrastructure, financial access, investment, advancement and digitalization.
- Develop new products and integrate value chains.
- Promote the connection between resilient, equitably distributed and sustainable food systems and tourism.
- Increase the conservation of natural and cultural resources.
- Encourage sustainable methods to make better use of resources, reduce emissions and reduce waste.

Eligibility criteria

- Low population density (<25,000 inhabitants).
- Located in the radius of famous places, tourist destinations or landscapes.
- Having traditional activities including agriculture, craft, cuisine etc.
- Has a history of community values; past achievements.

- **Keezhadi, Tamil Nadu won the Heritage category award in the Best Tourism village competition, 2024.**
- **Villages of the North East states dominated with many awards.**

DO YOU KNOW ?

- **World Tourism Day is celebrated on 27th September every year.**
- **Cruise Bharat Mission aims to create 4, 00,000 jobs in the cruise sector during this period.**

Shri Mrithyunjay GN

IAF's marvellous show at Marina Beach

It is 6th October 2024.Imagine the feel of sand under your feet. The sound of the crashing waves. Beside you are thousands of eyes staring at the sky. A split second passes and from the distance, barely visible they come at speeds you cannot even fathom. Metal gleaming in the sunlight.

You can't help but imagine the faint guitar riffs of an action movie playing in the background. The Indian Air Force is here.

The atmosphere was electric as the IAF painted the skies of Chennai with a breathtaking aerial display as part of its 92nd anniversary celebrations.

The air show featured a diverse array of aircraft, all flown by some of the best fighter pilots in the country. The menacing **Sukhoi Su-30MKI,** the agile **Tejas Light Combat Aircraft**, and the powerful **MiG-29,** performed a series of daring manoeuvres, leaving in their wake, not only colourful trails but also a spellbound audience.

The **Surya Kiran Aerobatics team** headed by Group Captain G S Dhillon, which include two pilots from Chennai as well, performed synchronized manoeuvres including loops, rolls and formations, all of these a testament to the pilots' exceptional skill and teamwork.

And it was not just fighter jets that took to the air. Air Force members parachuted down in tricolor formations. Cargo planes, helicopters, gliders, historical planes that were used as part of the air force during historic combat encounters were also part of the show.

The pilots who took part in this display included seasoned veterans and young talented officers, all of whom have dedicated their lives to safeguarding the nation's airspace. As the IAF continues to evolve and modernize, it remains committed to its core mission of protecting India's sovereignty and territorial integrity.

The IAF's participation in this event not only showcased the strength and capabilities of the Indian Air Force but also inspired a new generation of young minds to dream of soaring through the skies.

Shri Ramaswamy R

Jan Aushadhi Kendras

Medicines sold in retail medical outlets can be classified as **branded** and **generic.** Branded medicines are usually manufactured by MNCs who put in a lot of effort and money in their R&D and marketing. Branded medicines carry specific brand names and are expensive in the market. Generic medicines refer to those which have same composition dosage form, safety, strength, route of administration, quality, performance characteristics and intended use. The medicines are affordable to the general public as the R&D costs are not loaded to the final price.

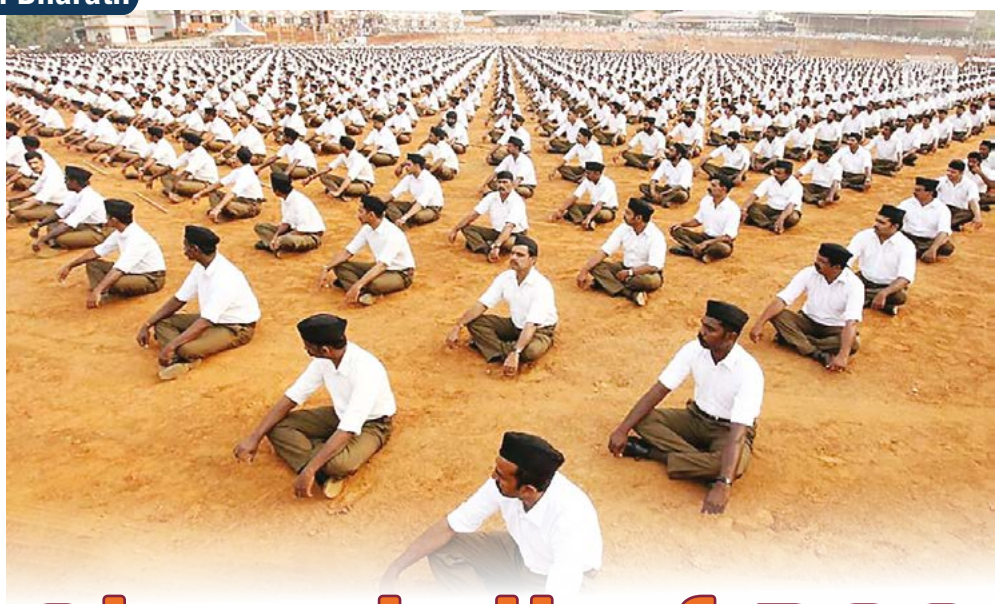
With the aim of promoting generic drugs **Pradhan Mantri Bharatiya Janaushadhi Pariyojana** (PMBJP) was launched by Department of Pharmaceuticals, Ministry of Chemicals & Fertilizers, Government of India in November 2008. **The scheme has grown to nearly 14,000 Jan Aushadhi Kendras (JAKs) or retail outlets across India.** JAK bring quality generic medicine at affordable prices to the poor. The generic drugs are found to have same quality, efficacy and safety but at lower prices. The savings on drugs are anywhere between 50% - 90%, particularly for those patients requiring long term treatment. National Medical Commission of India has advised physicians that their prescriptions carry only generic names of drugs written legibly in bold letters. The move is intended to introduce generic drugs and educate the consumers regarding their efficacy. JAKs also collaborate with public sector pharmaceutical companies for ensuring drug quality.

JAK has provided employment and business opportunities to entrepreneurs, pharmacists and local vendors, especially in rural areas. JAK can be opened at subsidized costs.

To start a JAK the following criteria have to be met:

- **Registration** to be made online with Pharmaceuticals & Medical Devices Bureau of India.
- **Space:** Possess, own or by lease minimum 120 sq ft of space.
- **License:** Retail drug license in the name of the applicant or the JAK.
- **Pharmacist:** Registered with the State Council.
- **Financial capacity:** Financial capacity with supporting documents ITR, Bank Statement, PAN, Aadhaar etc.
- **Furniture:** Sufficient furniture, including racks for medicines, a counter for bills and medicines, office tables.
- **Computer:** Computer and associated peripherals. Eligible for reimbursement.
- **Software:** Certified software for all billings.
- **Compliance:** Comply with all applicable laws including drug and cosmetic acts, health, sanitation, fire and safety codes.
- **Distance:** Maintain a distance of at least 1.5 km between two outlets.

PMBJP intends to complement Ayushman Bharat in bringing universal healthcare to people of India.



Shatabdi of RSS

Shakha, the daily congregation, is the foundational and fundamental unit of the RSS that does the task of character moulding of the young swayamsevaks.

On the auspicious day of Vijaya Dasami in 1925, a 36 year old patriot by name Dr. Keshav Baliram Hedgewar, launched an organisation with the simple declaration that "We are starting the Sangha today". This evolved quickly into the Rashtriya Swayamsevak Sangh (RSS). The organisation entered into its centenary year on 12th October 2024 (Vijaya Dasami). Doctorji, as Hedgewar was fondly called,was a freedom fighter and was part of the Indian National Congress till 1925.

In the early twenties (1920-25), while he was very active in the Congress, his inner self was busy seeking his life mission; and RSS was born as a result of this quest. His sole mission and that of RSS, was to organise an invincible, strong Hindu society so that no power on earth could damage our nation. While working in the Congress and also observing other organisations Doctorji felt that no effort was made to create cadres inspired by chaste patriotism, untouched by selfishness and imbued with discipline, character and integrity. According to him such cadre was the only guarantee against organisations getting weakened and losing track of goals.

Innovative work techniques

Hence he abandoned the beaten track of all the contemporary organisational work techniques and started the novel concept of the Shakha. This daily congregation, is the foundational and fundamental unit of the RSS that does the task of character moulding of the young swayamsevaks. **He also identified the Bhagwa Dhwaj (saffron flag) and not any individual, as the Guru that could inspire generations towards sacrifice, purity, spirituality and the search for the truth.**

Ideology and spread

RSS is unique in the sense that its ideology is rooted in the Indian nation's civilisational ethos.

According to the RSS the term 'Hindu' does not have a religious connotation but a geo cultural one. The Indian nation is not one with mere geographical boundaries but a civilisational nation. It is from this, the concepts of Hindu Rashtra (Hindu nation not a Hindu State as is being often misinterpreted) and Akhanda Bharath emanate. RSS is arguably the most vilified organisation in post-independent India and has suffered three bans since inception.

It has been consistently labelled as casteist, secretive, communal and anti- minority. Despite such motivated propaganda it has spread far and wide in terms of geography, demography and domain. Today there might hardly be any domain in which RSS does not operate through its affiliates or parivar kendras – Occupational and Professional, Political, Economic, Social service, Education, Women and children welfare, Tribals, Culture, Religious, Communication and it also has few think tanks.

Bharatiya Mazdoor Sangh (BMS), Bharatiya Kisan Sangh, Akhil Bharatiya Vidyarthi Parishad (ABVP), BJP, Akhil Bharatiya Grihak Panchayat, Adhivaktha Parishad, Vidya Bharathi, Bharatiya Vichar Kendra, Vidya Bharathi, Bajrang Dal, Vishwa Hindu Parishad, Vanavasi Kalyan Ashram, Samajik Samrastha Manch, Muslim Rashtriya Manch,Sanskar Bharathi, Samskrita Bharathi, Sevika Samithi, Seva Bharathi are some of the affiliate organisations. The false narratives against the RSS have thus been effectively neutralised by solid action on the ground.

The reasons behind success

The character moulding aspect, the lofty goals and the fire to achieve those, the autonomy given to the affiliate organisations, an adaptive approach and the tireless work of the swayamsevaks in various fields are some of the reasons for the enormous growth of RSS and its affiliates.

RSS is also known for the selfless service of its swayamsevaks at times of natural calamities and disasters. This is one aspect even its detractors would concede. RSS has been pragmatic in its approach and it has moved from only character building to social and political activism depending on its assessment of the situation at various points in time.

Very few organisations in the world survive for a century and even if they do, they would grow weaker over a period. BJP is today one pole in our polity and India's politics revolves around it. BMS is India's largest trade union and ABVP is the largest student's organisation.

Despite consistent vilification and motivated mudslinging, RSS along with its affiliates has grown from strength to strength as it enters its centenary year. The inspiration each swayamsevak draws from the daily chanting of the prarthana contributes in a major measure to this. The following two verses of the Prarthana, will give us the flavour of the work ethic and determination of RSS:

श्रुतम कैवा यटकंकाकिरणा मार्गम
स्वायम स्वीकृतम ना सुगाम करेयत ||

(Lord! Grant us such might as no power on earth can ever challenge, such purity of character as would command the respect of the whole world and such knowledge as would make easy the thorny path that we have voluntarily chosen).

Shri Ramaswamy R

The 14th Maharatna company

Hindustan Aeronautics Ltd (HAL) earlier known as Hindustan Aircraft was incorporated by the great visionary and industrialist Walchand Hirachand at Bangalore in 1940 in association with the then Government of Mysore. In 1942, the British government nationalized the company which was serving them in WWII.

The company was conferred 'Maharatna' status by GoI recently. HAL is in the forefront in aerospace and defence sectors.

HAL has given direct employment to 25,000 and indirectly many times more. Apart from their main plant and HQ at Bengaluru, HAL has 19 production units and 10 research and development centres in 8 locations in India.

To become Maharatna company, any PSU must have average annual net profit of ₹5,000 crores or more and turnover of 25,000 crores over three successive years. HAL more than exceeded these parameters. For 2022 – 23 turnover and profit was INR 26,621 crores and INR 5862 crores respectively.

TYPE	PRODUCT
Aircraft	Tejas HJT, Hawk, Su-30 MKI, HTT-40, Dornier
Helicopter	Dhruv, Rudra LCH, LUH, Cheetal, Lancer, Chetak, Cheetah
Space	Structures, Propellant tank, Cryogenic engines
System	Flight Data Recorder, Fuel pumps, Panel instruments
MRO	Maintenance, repair and overhaul of the above.

The other Maharatna companies are NTPC, ONGC, SAIL, BHEL, IOCL, HPCL, BPCL, CIL, GAIL, Power Grid Corporation, Power Finance Corporation, Rural Electrification Corporation and Oil India Ltd.

After the Maharatna status, HAL will have greater autonomy, higher investment capability and strategic flexibility. Now, HAL can invest up to ₹5,000 crore or 15% of its net worth (whichever is applicable in future) in a single project without requiring any government approval. Like any other Maharatna company, HAL will have the freedom to undertake mergers, acquisitions and strategic investments both domestically and internationally.

This new designation will enable HAL to enhance its R&D capabilities, increase its export potential and contribute more significantly to the **Make in India** and **Atmanirbhar Bharat** initiatives. It also positions HAL as a key player in the global defence and aerospace market. As the 14th Maharatna, HAL is expected to continue its legacy of excellence, innovation and commitment to India's defense and space sectors, while expanding its global footprint.

HAL has also taken tremendous interest in Corporate Social Responsibility and is serving people in diverse areas such as healthcare, senior citizen homes, helping differently abled persons, education, skill development, sports and in rural development.

New Tags

Eight products used by Assam tribe granted GI tag

As a recognition of Assam's vibrant cultural heritage, eight iconic Bodo products, each rich in tradition and flavour, have been awarded the Geographical Indication (GI) tag. Eight distinct items, including traditional beverages, foods and textiles have received this status, helping preserve and promote the region's indigenous crafts and culinary traditions.

Four notable traditional foods from the Bodo culture gained the GI status:

Bodo Napham, a fermented fish dish prepared over two-three months

Bodo Ondla, a rice powder curry flavoured with garlic, ginger, salt and alkali

Bodo Gwkha or Gwka Gwkhi, a dish central to the Bwisagu festival

Bodo Narzi, a semi-fermented food made with jute leaves, known for its rich nutrient profile, especially Omega-3 fatty acids.

Three unique rice beer varieties were also granted GI tags.

Bodo Jou Gwran, known for its high alcohol content (16.11%) among the other rice beers

Maibra Jou Bidwi, a revered welcome drink in the Bodo community;

Bodo Jou Gishi, a traditional fermented drink attributed to Lord Shiva and believed to hold medicinal properties

The Bodo Aronai, a beautiful, hand-woven scarf measuring 1.5-2.5 meters long and 0.5 meters wide,

also received a GI tag, reflecting the cultural vibrancy of the Bodo people.

Its nature-inspired designs, with motifs of trees, flowers, birds and mountains, echo the Bodo community's deep connection with nature.

These GI tags not only celebrate the Bodo community's craftsmanship but also protect their unique production methods from imitation, ensuring these products can be commercially recognised while preserving their cultural significance.

Desi cows declared as 'Rajyamata-Gomata' in Maharashtra

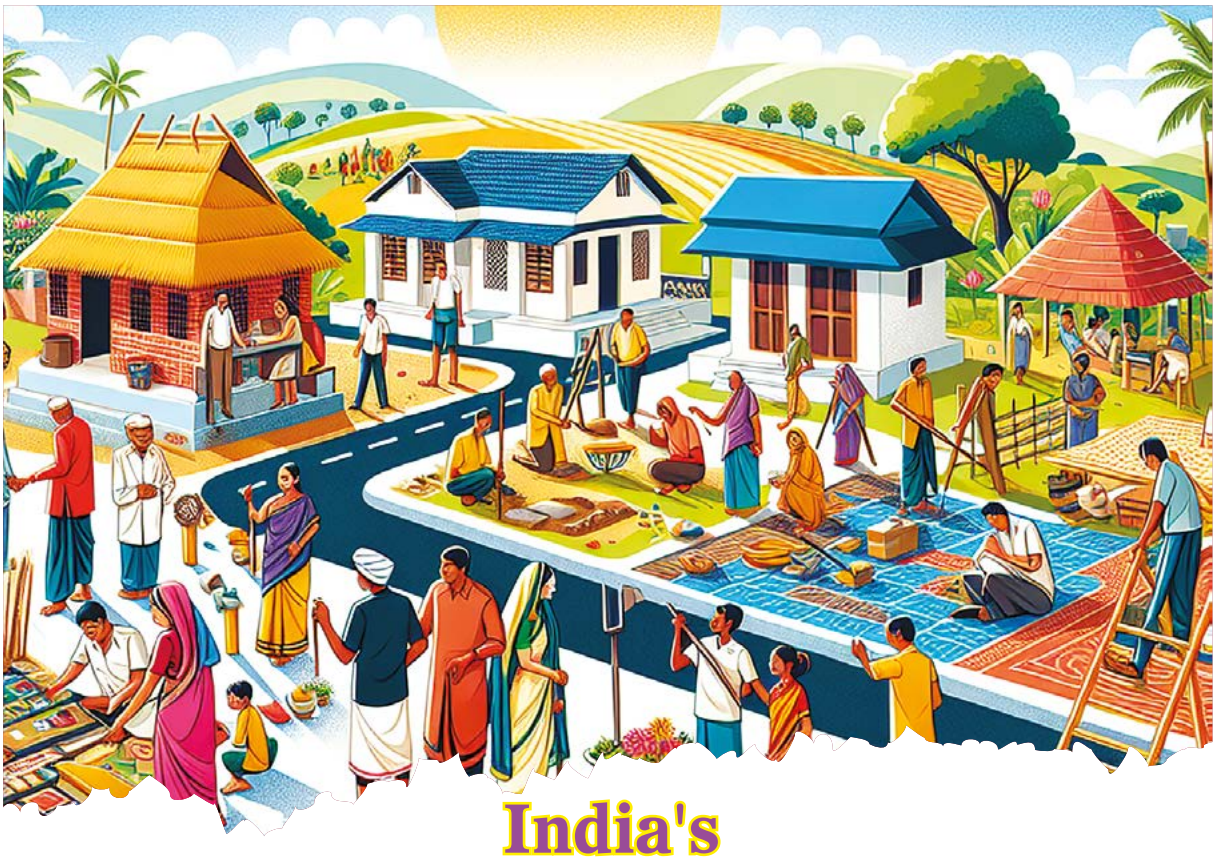
On 30th September 2024, the Maharashtra government declared the state's indigenous cow breeds as 'Rajyamata-Gomata' due to concerns over their dwindling numbers.

This declaration aims to emphasise the cultural and environmental significance of native cow breeds in Maharashtra, underscoring their importance in diary production, ayurvedic medicine and organic farming practices. The milk of indigenous cows is also considered a complete meal as it contains all essential nutrients.

There are indigenous cow breeds like **Devni** and **Lalkandari** in Marathwada, **Khillar** in western Maharashtra, **Dangi** in northern Maharashtra, and **Gavlau** in Vidarbha. According to the 2019 animal census, the indigenous cow population has decreased by 20% compared to earlier census figures.

The cabinet also approved a subsidy scheme for rearing indigenous cows, under which they will provide R50 daily subsidy per animal to cow shelter operators. Deputy Chief Minister Devendra Fadnavis added: "This will help goshalas provide fodder to the cows. It will help them conserve indigenous breeds."

Smt Archana Sundar



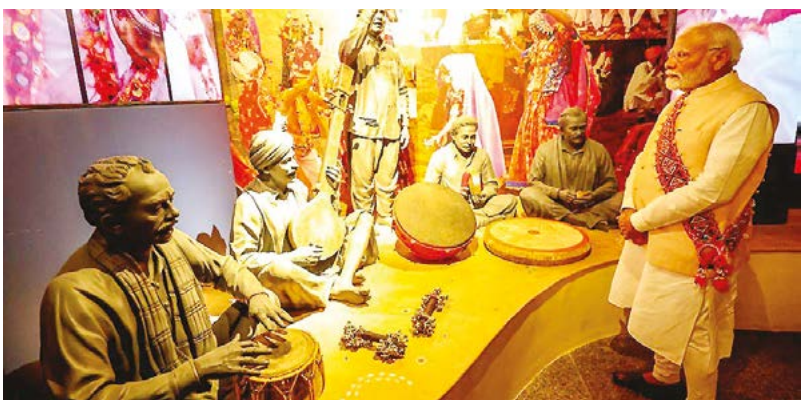
India's latest transformative initiatives

Interviewer: Thank you for joining us today! Could you please introduce yourself?

Interviewee: Thank you for inviting me! I'm Ramesh Bhagat, a final-year student in rural development studies. I've been involved in projects focusing on the Banjara community.

Interviewer: It's a pleasure to speak with you, Ramesh. PM Modi recently inaugurated the **Banjara Virasat Museum** in Pohardevi, Washim. What does this museum mean to your community?

Ramesh: The Banjara Virasat Museum is a dream come true. It's more than a building—it's a symbol of our rich heritage. For years, our culture was unknown to many. **Now, with the museum, people can see our art, crafts and understand our traditions. It captures our struggles, our celebrations and the lives of leaders like Sant Sewalal Maharaj.** It's a matter of pride to see our story being told on such a grand scale.



Interviewer: That's wonderful! How do you think the museum will impact the younger generation in your community?

Ramesh: The museum is especially important for the youth. It offers them a chance to connect with their roots and feel proud of their identity. I believe it will instil a sense of pride and belonging. Plus, the museum will attract tourists, creating opportunities for the local economy and jobs.

Educational programmes and workshops at the museum can also engage students and teach them about their culture and history.

Interviewer: Speaking of economic opportunities, **PM also announced agricultural and animal husbandry projects worth ₹23,300 crore.** How do you think these will benefit rural communities?

Ramesh: These projects are promising. Agriculture is the backbone of our region and many Banjara families rely on farming and livestock. **The focus on improving productivity, providing better infrastructure and access to modern techniques is what our farmers need.** It also emphasizes better animal husbandry practices, leading to more sustainable practices and improved incomes. **It's a step towards empowering rural communities to become self-reliant, reducing poverty and enhancing food security.**

Interviewer: Moving to Uttarakhand, the government launched the **Pradhan Mantri Janjatiya Unnat Gram Abhiyan**, focusing on developing tribal villages like Mana in Chamoli. What's your perspective on this initiative?

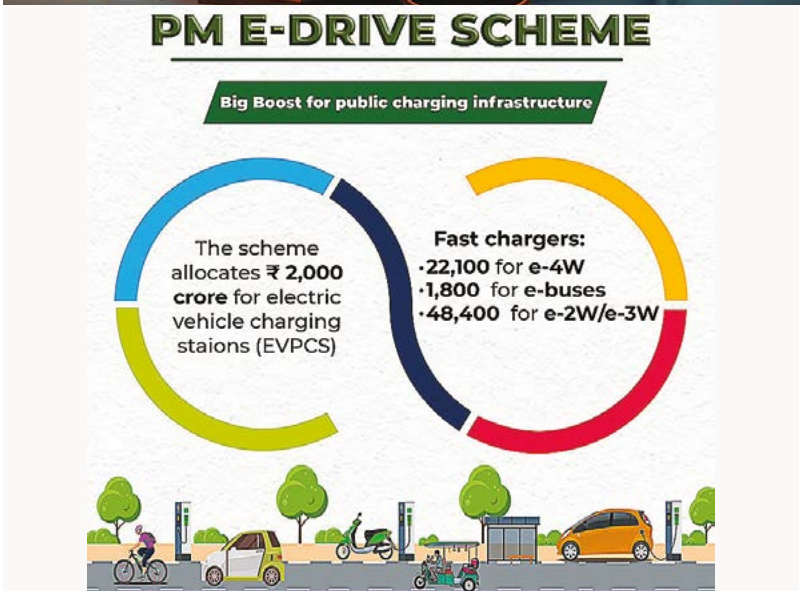
Ramesh: It's a great thing! It shows that the government is focusing on tribal communities' unique needs. Mana village, being the last Indian village before the Tibet border, holds historical significance. **This programme can ensure better access to education, healthcare and infrastructure.** What's important here is that the initiative isn't one-size-fits-all. Each village will get customized programmes; that can make a real difference. Enhanced connectivity will also promote tourism and

cultural exchanges, benefiting the entire region.

Interviewer: Absolutely. I'd also like to ask about the **PM E-DRIVE scheme**, which aims to promote electric vehicles. How do you think this will affect rural areas?

Ramesh: The PM E-DRIVE is a step in the right direction. In rural areas, affordable and sustainable transport solutions are needed. Subsidies for electric two-wheelers and three-wheelers can make them accessible. Farmers and small traders can benefit greatly from the lower running costs of electric vehicles. **This scheme could reduce fuel expenses and contribute to cleaner air, promoting environmental sustainability.** Additionally, this initiative aligns with the global shift towards greener technologies, helping India meet its climate goals.

Interviewer: That's an optimistic view. Now, let's talk about the **Indian Institute of Skills (IIS)** in Mumbai, which was also inaugurated recently. How do you think this institution will impact students like you?



Ramesh: The IIS is an incredible opportunity. The focus on advanced skills like AI, robotics and EV technology means students can prepare for the future job market. It's not just about degrees but practical skills that industries need. **The partnerships with companies can ensure hands-on experience, giving students an edge when entering the workforce.** It's a model that could be replicated across the country, **fostering a culture of innovation and entrepreneurship among young people.**

Interviewer: Do you think these initiatives collectively signal a change in the government's approach to development?

Ramesh: Definitely. There's a shift towards a more inclusive model of development—one that respects tradition while embracing modernity. The museum preserves cultural heritage, while agricultural projects and the Pradhan Mantri Janjatiya Unnat Gram Abhiyan empower rural and tribal communities. And with the IIS and PM E-DRIVE, the government is preparing young people for a technologically advanced and environmentally conscious future. It's about creating a balanced path to progress that can uplift marginalized communities and promote national integration.

Interviewer: Well said, Ramesh. Thank you for sharing your thoughts. It was great to hear your perspective on these initiatives.

Ramesh: Thank you! I hope these efforts continue to benefit people across India, and I'm excited to see what the future holds.

Col Shashidhar M V (Retd)

VINETRA commissioned at INS Satavahana

The **Kalvari Submarine Escape Training Facility,** named "Vinetra," was officially commissioned at INS Satavahana in Visakhapatnam on 13th September 2024. The state-of-the-art facility was inaugurated by Vice Admiral Rajesh Pendharkar, the Flag Officer Commanding-in-Chief of the Eastern Naval Command.

Constructed by M/s L&T Defence as a turnkey project, the facility is equipped with a five-meter escape tower integrated with an adjacent diving basin. This will be utilised for imparting both basic and refresher escape training to the crew of Kalvari-class submarines ensuring that they are proficient in escape procedures in the event of a submarine distress situation ensuring the crew is well-prepared to manage emergencies underwater and thus building confidence in submarine operations.

Kalavari class submarines

Kalvari-class submarines are a series of diesel-electric attack submarines built for our Navy, based on the Scorpène-class submarines originally designed by the French ship builder Naval Group (formerly DCNS). The vessels are constructed by a joint venture of Naval Group and Mazagon Docks Limited. These submarines are a key component of India's underwater warfare capabilities, designed for a range of **tasks including anti-ship warfare, anti-submarine warfare, intelligence gathering and area surveillance.**

Enhanced safety protocols and training

This facility will provide **both basic and refresher training** to the submarine crew, boosting operational safety measures across India's underwater fleet.The escape tower integrated with modern technologies ensures the highest standards of safety, contributing to our Navy's ability to maintain its edge in submarine warfare.

Strategic maritime capabilities

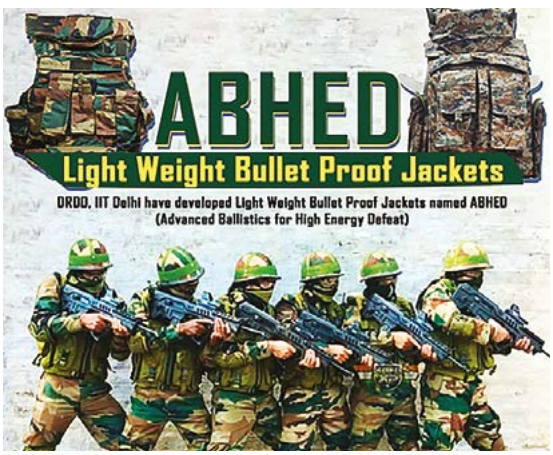
"Vinetra" plays a crucial role in bridging the gap between imported technology and self-reliant defence solutions. **The successful construction and commissioning of this facility signal that our nation is ready to take on more such projects to match global standards in the future.**

Col Shashidhar M V (Retd)

ABHED
Light weight bullet proof jacket

Defence Research & Development Organisation (DRDO) along with researchers at IIT Delhi developed **ABHED (Advanced Ballistics for High Energy Defeat),** a lightweight bulletproof jacket that offers total protection to the defence personnel.

Developed at the DRDO Industry Academia Centre of Excellence (DIA-CoE) at IIT Delhi these are **created from polymers and indigenous boron carbide ceramic material**. Their design configuration is based on characterisation of various materials at high strain rate followed by appropriate modelling and simulation.



R&D

It took researchers more than three years to design this bullet-resistant jacket weighing 8.2 kg for Indian soldiers weighing two and a half kilograms lighter than the ones currently being used by the force (about 10.5 kg).

"The ABHED BIS level 5 and ABHED BIS Level 6 comply with the Indian Army's latest requirements and capable of defeating eight AK-47 HSC **(Hard Steel Core)** and six sniper API **(Armour Piercing Incendiary)** bullets respectively on 1000 square cm panels after ageing with minimum back face deformation.

The jackets meet the highest threat levels and are lighter than the maximum weight limits stipulated in respective General Staff Qualitative Requirement of the Indian Army. With minimum possible weight of 8.2 kg and 9.5 kg for different BIS Levels, these modular-design jackets having front & rear armours provide 360 degree protection.

The R&D ballistic testing as per BIS standards has been conducted successfully and is ready for technology transfer by IIT Delhi to the industry.

HIGHLIGHTS

- Modular configurations and 360° protection.
- Ergonomic design for soldiers and security forces.
- Total protection area - 3400 square cm.
- Consists of rigid **Hard Armour Panels** (HAP), **flexible Soft Armour Panels** (SAPs) and carrier to accommodate HAPs and SAP.

Back face deformation (BFD) is the amount of indentation or bulging that occurs on the opposite side of a material when it is struck by a projectile. It is a measure of how much energy is transferred from the projectile into the material. BFD can be used to assess the performance of materials like body armour and helmets.

ABHED BIS Level 5/ (GSQR1438)	ABHED BIS Level 6
Weight 8kg	Weight 9.3 kg
Front HAP strike face defeats 8 Hardened steel core bullets of AK47 with BFS (back face signature) less than 25mm.	Front HAP strike face defeats 6 Sniper bullets with BFS less than 25mm.
Back, sides, Groin and Neck defeats SLR and AK47 Mild steel core bullets with BFS less than 25mm.	Back, sides, Groin and Neck defeats SLR and AK47 Mild steel core bullets with BFS less than 25mm.
Protection against AK-47: Hard Steel Core (HSC), Mild Steel Core (MSC) bullets and SLR bullets.	Protection against AK-47: HSC, MSC bullets, SLR bullets and 7.62x54R Dragunov API ammunitions.

Smt Archana Sundar

Indian missiles tested

The VSHORADS is designed by DRDO's Research Centre Imarat (RCI) in collaboration with other DRDO labs; the missile boasts high accuracy with a "hit-to-kill" capability.

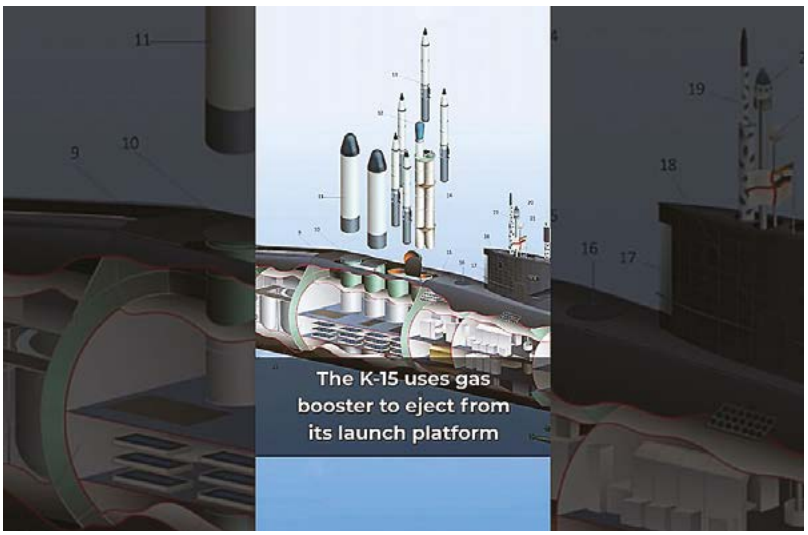
In an impressive leap forward for India's defence capabilities, the Defence Research and Development Organisation (DRDO) recently conducted three successful flight tests of the Very Short Range Air Defence System (VSHORADS) missile in October 3 at the Pokhran Field Firing Ranges, Rajasthan. The trials mark a significant milestone in India's pursuit of self-reliance in defence technology, reinforcing the government's vision of '**Aatmanirbhar Bharat**' or self-reliant India.

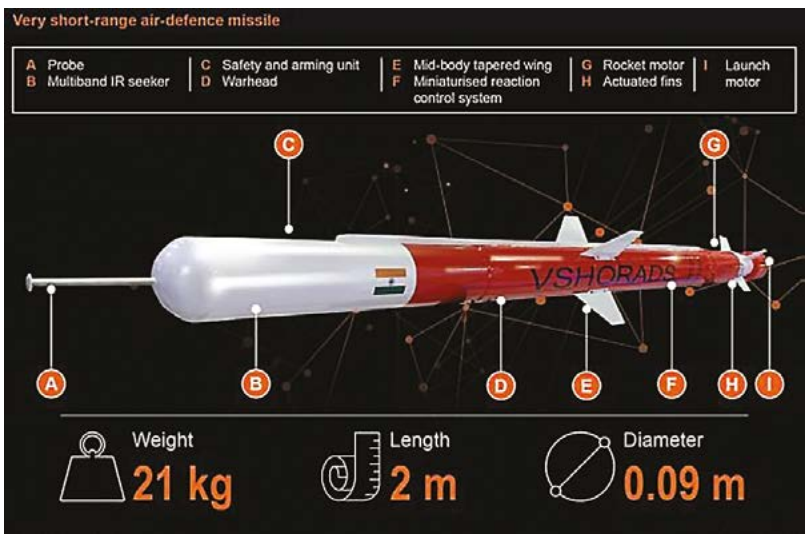
The VSHORADS is a portable air-defence system equipped with state-of-the-art technology. Designed by DRDO's Research Centre Imarat (RCI) in collaboration with other DRDO labs, the missile boasts high accuracy with a "hit-to-kill" capability. **Its trials at Pokhran showcased its maximum range and altitude capabilities, as well as its reliability in engaging targets across multiple scenarios, including approaching, receding, and crossing modes.** With the involvement of production agencies through the **Development cum Production Partner** (DcPP) model, the tests utilized missiles produced by these DcPPs, setting the stage for prompt user trials and scaling up production.

The Armed Forces, actively involved from the project's onset, stand to gain enhanced protection against low-altitude aerial threats, adding a crucial layer to India's air defence.

Alongside this, DRDO's K-15 Sagarika missile represents India's remarkable strides in underwater strategic capabilities. Known for its **submarine-launched ballistic missile** (SLBM) capability, the K-15 boasts a range of 750 kilometers, making it a critical asset in India's nuclear triad, which ensures second-strike capability. Equipped with a hybrid propulsion system and powered by a two-stage solid-propellant motor, the K-15 is an advanced strategic weapon. Originally conceived in the 1990s, the K-15 underwent numerous test firings before the first fully integrated test in 2010. Its successful deployment on Arihant-class submarines completes India's triad, bolstering the country's deterrent capabilities through a reliable, stealthy strike option.

Although the K-15's limited range restricts its operational reach, particularly in covering China or the Pakistani capital Islamabad, it represents a key platform for further advancements in missile range and technology. This missile likely utilizes inertial navigation and radar-based terminal homing systems, giving it an edge in high-precision targeting. It has options for high-explosive or nuclear payloads weighing between 500 to 800kg, enabling adaptable deployment.





Together, the VSHORADS and K-15 Sagarika embody India's robust progress in defence technology. The VSHORADS boosts tactical air defence for frontline units, while the K-15 contributes to India's strategic deterrence. **These advancements are a testament to DRDO's dedication to innovation and the Indian Armed Forces' readiness for future challenges.**

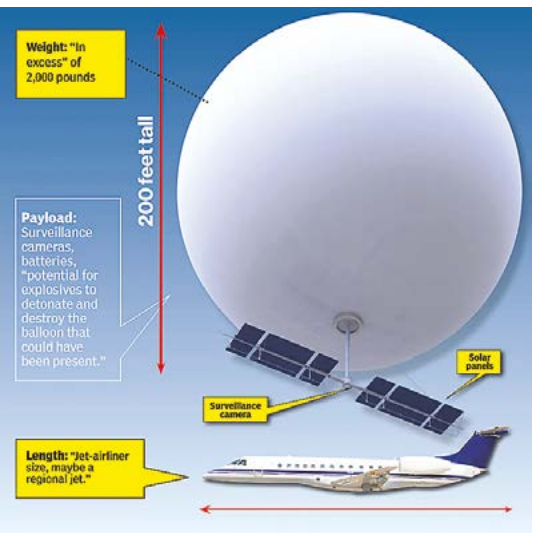
Col Shashidhar M V (Retd)

IAF destroys spy balloon type target

Update

The Indian Air Force (IAF) recently conducted an exercise to demonstrate its ability to intercept targets representative of Chinese spy balloons at very high altitudes. Deploying one of its thirty-six Rafale jets, the IAF successfully engaged a simulated target at over 55,000 feet or approximately 16.7km altitude. A significant milestone, it proved our capability to destroy such targets in previously unexplored flight zones for these types of missions. IAF used a relatively smaller balloon in size than the Chinese spy balloon which was shot down by the US Air Force a fifth generation F-22 Raptor fighter jet.

A versatile combat aircraft designed for high-altitude operations, extended range, high payload capacity, Rafale enables the IAF to maintain heightened vigilance against potential aerial incursions, including in upper airspace.



Rewind

The downing of a Chinese spy balloon by the US Air Force over American waters in 2023 highlighted the strategic importance of this layer of airspace, which remains under-regulated due to a lack of consensus on the boundary between airspace and outer space. The Chinese balloon, measuring nearly 60m in diameter and equipped with a 900 kg payload, demonstrated high-altitude intelligence-gathering capabilities.

In 2022 and 2023, a Chinese balloon was spotted hovering over Andaman & Nicobar Islands and the Govt failed to engage the threat on both occasions and later the target eventually floated away. Concerns about the country's surveillance capabilities in the region eventually led to necessary military upgrades in the region.

WHAT IS A SPY BALLOON?

The balloon is one of the oldest flying objects created in the history of mankind. Today it has been adapted to perform various functions ranging from decoration to air travel. One such balloon is weather balloon.

Weather balloons have been designed to carry panel payload of sensors. Powered by solar panels these sensors can

be employed for spying roles by equipping instruments like electro-optical sensors for monitoring electromagnetic radiation of different spectra, synthetic aperture radars for terrain mapping, high-resolution cameras for taking photographs for recording sensitive data.

In the Cold War era these balloons were the principal tools for spying on enemy territories. These are generally made of high-flexibility latex material. Mostly hydrogen or helium is used to fill the balloons.

Conclusion

The growing importance of very high-altitude protection, a domain still unexplored by major powers to ensure enhanced surveillance and counter emerging threats cannot be understated in modern warfare. **The recent IAF's exercise only shows our determination to defend airspace sovereignty from any form of unwanted surveillance besides increasing control over an area which has been sparsely utilized.**

EMPLOYMENT AND LABOUR LAW

PART 2

In the previous edition of this series, we gained an insight into the background and development of labour and employment law in India.

The Industrial Disputes Act, 1947

The Industrial Disputes Act ("ID Act") was aimed at making provisions for the treatment and settlement of industrial disputes (i.e., between industries and workmen) and to provide mechanisms for the investigation and settlement of industrial disputes by various modes including conciliation and adjudication.

The ID Act mandates certain committees including the grievance redressal committees for establishments employing a certain threshold of the number of employees. It also provides for prevention of unfair labour practices and internal and external bodies for dispute resolution.

The ID Act also has multiple labour welfare-centric provisions, including payment of compensation to workmen on account of closure or layoffs.

The Factories Act, 1948

The Factories Act, ("Factories Act"), aimed at setting standards for safety and treatment of workers employed in factories. **The Factories Act mandates licenses and registrations to build, expand or use a building as a factory premises, and lays down safety standards in relation to the same.**

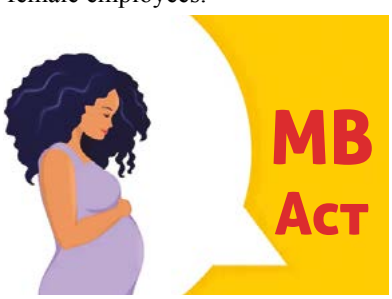
The Factories Act also requires effective arrangements for the treatment of wastes and effluents generated from manufacturing processes conducted in factories.

With respect to the employees, the Factories Act has several protective provisions including those which define the length of a workweek, mandate holidays for employees and prescribe safety and security measures to be adopted by employers based on thresholds/ conditionalities as applicable.

Maternity Benefit Act

Considering that women make up a good population of the workforce today, a need was felt to bring about legal provisions which would help women handle the workplace better and balance work and life responsibilities. **The Maternity Benefit Act ("MB Act") ensures that protection to employed women during their pregnancy, so that it does not in any way impact their incomes or the economic growth of the nation.**

The MB Act grants maternity leave and paid leave in the event of any pregnancy related complications including miscarriages. The MB Act also mandates creche facilities to be set up by employers employing more than a certain threshold of female employees.



The MB Act also restricts an employer from dismissing a pregnant woman due to her pregnancy or while she is away, and changing any of the terms of her employment which might disadvantage her.

Prof. Preeti Aghalayam

The first woman to head an IIT

Preeti Aghalayam, the director in-charge of the newly established IIT Madras campus at Zanzibar, Tanzania is the first woman to lead an Indian Institute of Technology. An esteemed alumna of IIT Madras, she has achieved an extraordinary milestone. This international campus in Zanzibar island, off the east African mainland is the result of a partnership between India and Tanzania, with our country offering scholarships for citizens of Tanzania to study in various degree programmes at this campus. "I believe that this educational bond will ensure that we stay strong and it's a strategic kind of move," says its Director Dr.Preeti.

Born to academician parents, Preeti recalls her childhood days,"I was chatty and curious and for our parents there were too many questions." Her father late Dr. Janardhan was a chemistry professor at the Regional Institute of Education (RIE), Mysuru and her mother Dr. Rama taught linguistics. Having grown up in a family with a positive outlook, Dr.Preeti Aghalayam aims to build an environment where young people are encouraged to look beyond marks and lucrative jobs and tap into inventive side as she did all those years ago.

Preeti Aghalayam completed her B.Tech in chemical engineering from IIT Madras in 1995 and soon acquired M.S. in Chemical Engineering from University of Rochester, New York in 1996. Later she received her Ph.D. degree from the University of Massachusetts, Amherst, USA in 2000. Soon after completing her post-doctoral research work at Massachusetts Institute of Technology, Cambridge in 2002, she returned to India to join as an Assistant Professor at IIT Bombay in the Chemical Engineering department. She spent the next eight years teaching there till she moved to her alma mater in 2010.

Preeti's research work is in the broad area of detailed kinetic modelling for industrially relevant systems. Her group focuses on coal gasification, catalytic converters and combustion as the main areas of research. The group philosophy involves the design of 'smart'

laboratory scale experiments and sophisticated simulations. Among her co-workers and students, Aghalayam is known for her incredible passion for her subject as well as research and methodical thinking. **Her main focus areas have been in automotive sector after treatment in the catalytic reduction of nitrous oxide (NO) from fuel-lean engines; carbon black formation, soot in fuel-rich flames and underground coal gasification.** She has several international publications to her credit and has authored a book ***Mathematical Modeling for Underground Coal Gasification.***

Beyond her academic pursuits, Preeti has a strong sports background and was an avid basketball player during her school days. She is also an accomplished marathon runner and a blogger. In an interview, this running enthusiast says, "Running is everything for me as it helps me shred off the stress. If I am under a lot of stress, my family asks me to run and come back. Running makes me feel human again."

Prof.Aghalayam is also the nodal officer for the 'Gender Advancement for Transforming Institutions' initiative at IIT-Madras.

It seeks to work for advancement of women in the fields of science, technology engineering and mathematics, and to develop and implement policies and address issues relating to the same in a systematic and timely manner. She believes that creating "physical spaces" where men and women could study together comfortably and ensuring that all information and opportunities were available to all parties equally is important. In terms of faculty hiring and recruitment, the attitude of "sitting and waiting for excellent women candidates just won't cut it since it fails to account for hidden barriers in society. It's important to have a little more pro-activeness in faculty hiring so that the applicant pool can be filled with strong women candidates, prompting them to explore us (India), instead of finding something in Europe or the US," she explained in an interview.

The Principal Scientific Advisor's office has recognised her as one of the 75 Women in STEAM (Science, Technology, Engineering, Arts and Mathematics) through the 'She Is' book series. Narrating personal stories of courage, hope and determination, this book talks about the personal and professional struggles of women who did not have it easy but who for sure are role models for every girl who aspires to work in one of these disciplines.

This book series aims to provide young women with more role models, to make visible women's leadership and to stimulate interest in the Sustainable Development Goals. "I am from Mysore and like my daughter says – it is a pastoral land far away from any action. So, I've always constantly felt like my English wasn't good enough, my math wasn't up to par, and my

writing skills were questionable. Somehow, I've always been able to conquer this imposter syndrome and get on with life. You just have to keep your head above water and stay in the clear," encourages Preeti.

She received the prestigious **Young Engineer Award** of Indian National Academy of Engineering and **IIChE Young Achiever Award**, Indian Institute of Chemical Engineers, Mumbai, 2007. She has been bestowed with **Amar Dye Chem Award** for excellence in Basic Research and Development in Chemical Engineering in 2008.

Dr Preeti reinforces that it is time we celebrate women research scholars who jump through many hoops, be it the pressures of marriage or pregnancy! Rewarding excellence mindfully and encouraging women who have not dropped out and stayed longer motivates everyone to follow their footsteps. "I remember being super excited about everything – starting my undergrad at IITM and grad school abroad, and coming back to teach at the IITs. Obviously there have been instances that dampen your enthusiasm and take a toll on your spirit. But I think, having a positive outlook (I always do) and just braving the ordeal is the best way to deal with it. If there is something worth fighting for, you should go for it, that's what I have believed", insists this role model academician and administrator.

Choosing millets over *maida*

Millets support digestion, enhance immunity and improve energy levels, making them ideal for people of all ages.

In India, food is more than just sustenance; it's a celebration, a tradition and an intrinsic part of our cultural heritage. Over the last few decades, however, the modern diet has veered away from its wholesome roots, embracing processed ingredients like refined flour or *maida*. Particularly among children, the allure of cakes, cookies, pizzas and packaged snacks has popularized foods rich in *maida*, leading to a host of health issues. In contrast, millet-based foods—a staple of ancient Indian diets—offer a nutritious, versatile and natural alternative to refined flour.

The downside of *maida*

Maida has become synonymous with modern processed foods. It is the flour that gives bread, biscuits, pizzas, pastries and noodles their soft, chewy texture. However, the refining process strips wheat of its outer bran layer, which contains most of its fibre, vitamins and minerals. What remains is an end product high in carbohydrates but low in nutritional value.

The consumption of *maida*, particularly when it becomes a daily diet component, has been linked to numerous health issues. Its high glycaemic index can lead to a rapid increase in blood sugar levels, contributing to insulin resistance, obesity and eventually, diabetes. For children, who require balanced nutrition to support their growth and development, foods rich in *maida* often lead to nutrient deficiencies, energy crashes and even early onset of metabolic disorders.

Additionally, *maida* is a staple ingredient in many processed foods that contain preservatives, artificial flavourings and trans fats, which are associated with increased inflammation and oxidative stress. These harmful additives not only hinder children's physical growth but can also affect their cognitive development and focus, leading to issues with attention, hyperactivity and fatigue.

Millets over maida

Millets—like *ragi* (finger millet), *jowar* (sorghum), bajra (pearl millet), foxtail millet, and barnyard millet—are slowly making a comeback in Indian kitchens, thanks to a growing awareness of their nutritional benefits. These ancient grains, once side-lined in favour of polished rice and wheat, are now recognized for their dense nutrient profile and adaptability across different culinary traditions.

Millets are incredibly rich in fibre, essential amino acids, iron, calcium, potassium, and other vitamins. Unlike *maida* millets release energy slowly, helping to maintain stable blood sugar levels, which is particularly beneficial for growing children. They are also naturally gluten-free, making them suitable for children with gluten sensitivities or celiac disease.

Millets support digestion, enhance immunity and improve energy levels, making them ideal for people of all ages. In children, the fibre-rich quality of millets helps improve gut health, which in turn impacts overall immunity and cognitive function. Switching to millet-based foods can be especially beneficial for children who are prone to frequent stomach upsets or fatigue.

Millet-based alternatives to everyday foods

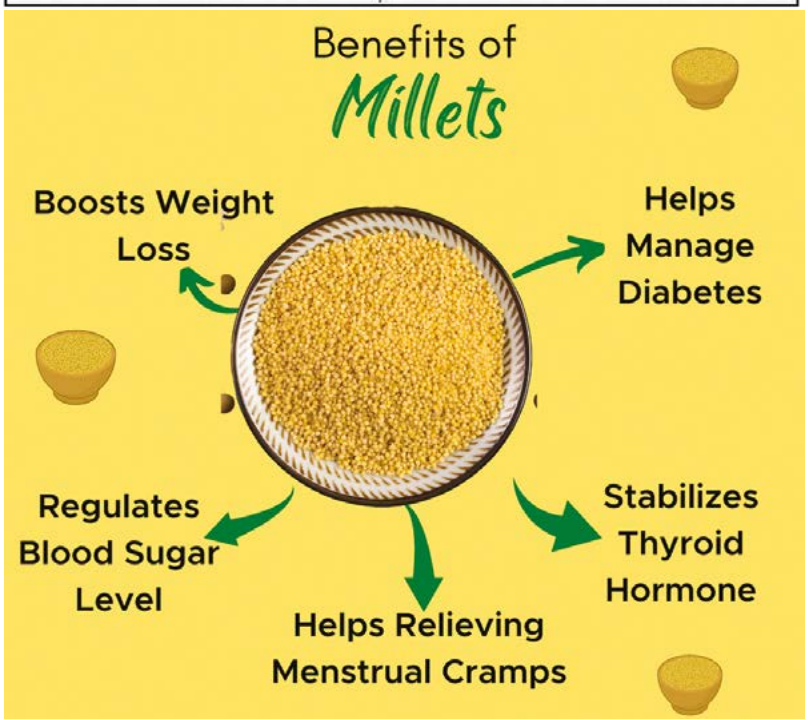
The beauty of millets lies in their versatility. Traditional recipes can be easily adapted to incorporate these nutritious grains, making it easier for families to reduce or eliminate *maida* from their diets. Here are some delicious millet-based alternatives to common *maida* products:

1. Millet *chapati*: Instead of *maida*-based *rotis*, try making *chapatis* with *jowar, bajra* or *ragi* flour. These have a delightful earthy flavour and a wholesome texture that pairs well with Indian curries.

2. Millet pancakes and dosas: *Ragi* and foxtail millet make excellent flour bases for pancakes, *dosas* and *uttapams*, offering a healthier option for breakfast or snacks. They are packed with calcium and iron, crucial for children's growth.

3. Millet pasta and noodles: Various brands now offer pasta and noodles made from millets, which are a nutritious substitute for *maida*-based varieties. They cook similarly to traditional pasta, making the transition effortless for children who enjoy these dishes.

4. Millet cookies and cakes: Try baking cookies and cakes with finger millet or foxtail millet flour.



Sweetened with jaggery or honey, these treats retain the goodness of millets while eliminating the harmful effects of refined sugar and flour.

5. Millet porridge and *kheer*: *Bajra* or ragi porridge, sweetened with dates or fruits, is a nourishing breakfast option. Millets can also be used in traditional *kheer* recipes, creating a calcium-rich, delicious dessert without the spike in blood sugar.

Encouraging a millet-based lifestyle in children

Changing a child's diet can be challenging, especially when they are used to the sugary, addictive taste of processed foods. However, introducing millet-based meals gradually and creatively can help shift preferences. Begin by offering millet *chapatis* with their favourite side dishes or sneaking millet flour into pancakes and *dosas*. For younger children, a millet *kheer* or porridge with fruit may be an easy and attractive start.

Cooking millet-based foods as a family can also spark interest among children. By involving them in making millet cookies or rolling out *jowar* rotis, children are more likely to appreciate these nutritious foods.

The way forward

In a world where lifestyle diseases are on the rise, focusing on a natural diet is essential. Millet-based foods offer a gateway to better health, particularly for India's younger generation, who face increasing exposure to processed foods. Beyond individual benefits, consuming millets supports local farmers and promotes sustainable agriculture, as millets are drought-resistant and require fewer resources than other grains.

Incorporating millets is not about eliminating certain foods overnight but rather taking steps toward a balanced, wholesome diet that respects traditional wisdom. **By choosing millets over *maida*, we not only nourish our bodies but also preserve the heritage of Indian food—a heritage rooted in balance, simplicity and respect for nature.**

Smt Vaishnavi V

Lucknow

CURIOSITY CORNER

I Crossword - All about Lucknow!

Across

3. This historical gateway in Lucknow is known for its grandeur and architectural splendour.

5. Lucknow is referred to as the' City of _____ '.

7. Capital city of the state - _____.

9. This language is commonly spoken apart from Hindi.

10. Said to be the largest structure in the world with an unsupported construction.

Down

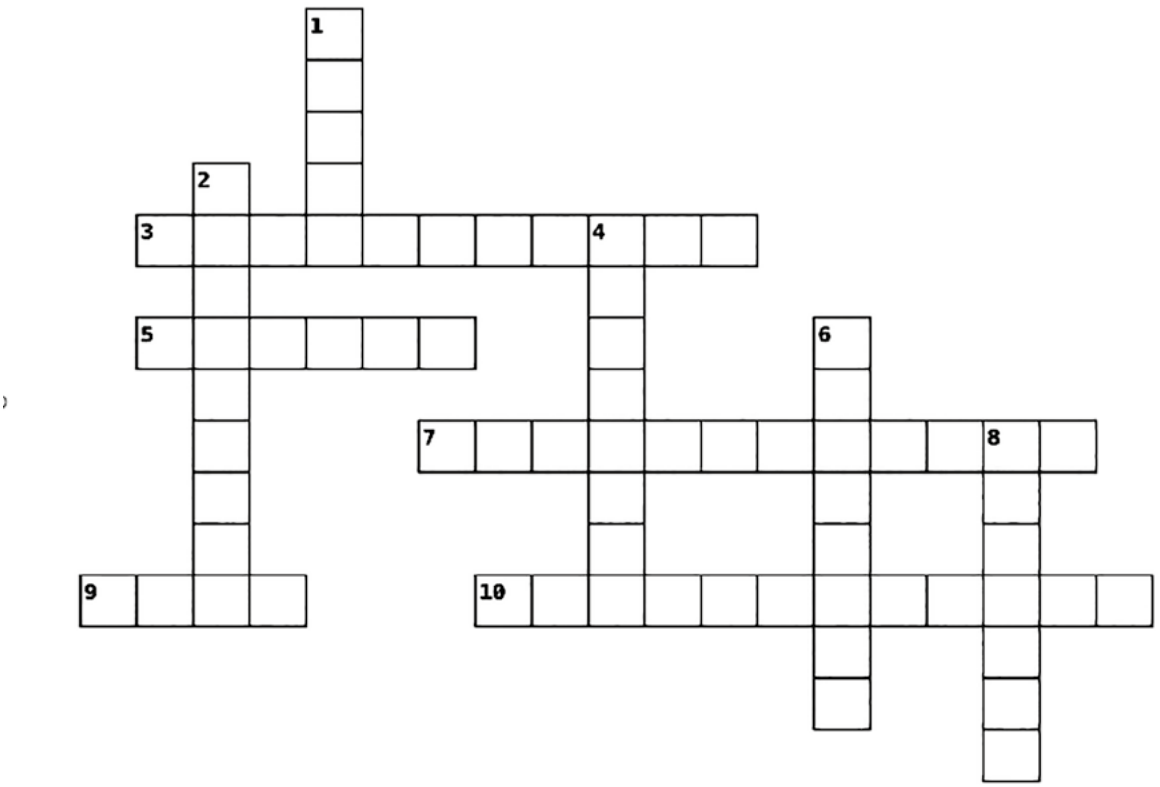
1. Lucknow is situated on the banks of this river.

2. Tallest clock tower in India with a height of 221 ft.

4. This market in Lucknow is famous for its traditional Chikankari work, jewellery, handicrafts and many more, making it a popular shopping destination.

6. One of the country's beautiful railway stations that resembles a chessboard.

8. A traditional musical instrument with the city's tag, often used in classical and folk music.



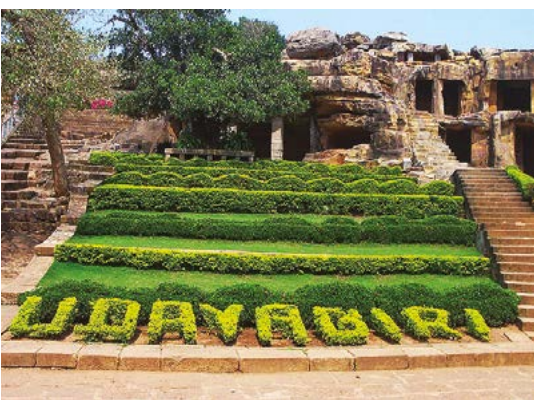
Answers on page 66

Smt Ghana Saraswathy M

Udayagiri Caves

Udayagiri Caves in Odisha hold a remarkable place in India's historical and cultural landscape. These ancient rock-cut caves, dating back to the early centuries of the common era, are a testament to the region's rich artistic, religious and architectural heritage. Located near the capital city of Bhubaneswar, Udayagiri Caves are often visited in conjunction with the adjacent Khandagiri Caves, collectively reflecting the evolution of Jainism in eastern India.

Udayagiri Caves were commissioned during the reign of **King Kharavela** of the **Mahameghavahana Dynasty**, who ruled in the 1st century BCE. Kharavela was known not only as a warrior king but also as a patron of art, culture and religion, particularly Jainism. His inscriptions, engraved on the walls of the caves, narrate his military conquests, charitable deeds and devotion to the Jain faith. These inscriptions are some of the earliest records of royal patronage in India, making Udayagiri a site of significant historical importance.



The caves themselves are marvels of ancient rock-cut architecture. Carved meticulously into the hillside, they feature ornate reliefs, sculptures and pillars that reflect the artistic skills of the time. The most famous among these is the **Hathigumpha inscription**, a 17-line engraving detailing King Kharavela's exploits. This inscription is a key source for understanding early Indian history, providing insight into the political, social and cultural landsape of the era.

Additionally, the caves were used by Jain monks as residences and meditation halls, offering a glimpse into the austere lifestyle practised by Jain ascetics. The peaceful ambience of the caves, combined with their historical and spiritual significance, makes Udayagiri a unique site that attracts both history enthusiasts and religious pilgrims alike.

These caves stand as a proud reminder of Odisha's ancient history, artistic excellence and the enduring influence of Jainism. They offer a window into the past and remain a vital piece of India's vast cultural heritage.

The ideal time to visit is between October and February, during the winter months, when the weather is pleasant. The temperature ranges from 15°C to 28°C, making it comfortable for sightseeing and exploring the caves.

The nearest railway station is Bhubaneswar Railway Station, which is well-connected to major cities across India.

Smt Vaishnavi V

Shyamji Krishna Varma

We have heard many a story about the unsung heroes who fought for our freedom on the Indian soil. Here is the life story of Shyamji Krishna Varma who toiled for our independence outside India through his pen that echoed thousands of miles away.

Shyamji was born on 4th October, 1857 in Mandvi, Gujarat. He completed his schooling in Bhuj and moved to Mumbai for further studies where he developed interest in Sanskrit. In 1876, he was deeply moved by the teachings of **Swami Dayanand Saraswati** which inspired him to delve into Vedic philosophy. In 1877, impressed by his public speech, the Pandits of Kashi bestowed upon him the title ***Pandit***.

Monier Williams, a Sanskrit Professor at Oxford University on noticing Shyamji's immense knowledge in the subject, offered a post as his assistant in Oxford. He passed his B.A. in 1883 in London and presented a lecture on **"The origin of writing in India"** to the Royal Asiatic Society, a learned society on Asian studies.

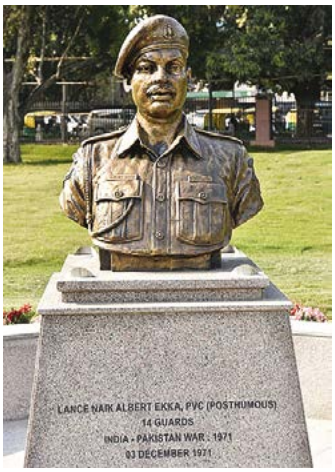
He returned to India in 1885 and practised as a lawyer. He also worked as the Diwan in numerous states, which he resigned due to a bitter experience with the British. He moved to London in 1900 and stayed at the Inner Temple, a prestigious location for barristers and judges.

In 1905 he founded India House, a hostel for Indian students who faced racial discrimination and The Indian Sociologist, an English monthly that themed on nationalist ideas. India House rapidly developed as an organised meeting point for radical nationalists and became a prominent centre for revolutionary Indian nationalism outside India. Added to this he founded the **Indian Home Rule Society** with the objective of securing Swarajya, carrying the propaganda all over England and educating Indians on National Unity. This angered the British.

Krishna Varma moved to Paris in 1907, avoiding prosecution. The British government tried to get him back but he had a strong support from the French Government. He continued the freedom struggle through his pen and later moved to Geneva, Switzerland where he expired on 30th March 1930. Leaders from India offered tribute on hearing the news.

In his memory

- In the 1970's, **Shyamji Krishna Varmanagar**, a new town that developed in the state of Kutch was named after him.
- On 4th October 1989, a **postal stamp** was issued to honour Shyamji.
- In 2003, the preserved ashes of Shyamji and his wife were brought back to India and handed over to the then Chief Minister of Gujarat, Narendra Modi.
- In 2010, spread over 52 acres, a memorial called *Kranti Teerth* was inaugurated near Mandvi which houses a replica of India House building at Highgate along with statues of Shyamji Krishna Varma and his wife.



Lance Naik Albert Ekka

Naik Albert Ekka, who heroically laid down his life for our motherland at the young age of 23 during the 1965 war against Pakistan, is celebrated as the twelfth Param Veer Chakra recipient of the Indian Army. His image stands as a powerful reminder of his extraordinary sacrifice and unwavering commitment to our nation.

Lance Naik Albert Ekka was born on 27th December 1942. He joined the Fourteen Guards on 27th December 1962. During the 1971 Indo-Pak War, his unit was tasked with capturing a well-fortified Pakistani position at Gangasagar, located 6½ km west of Agartala in the eastern sector. This position was crucial for the capture of Akhaura. The attack commenced at 04:00 hours on 4th December 1971, with Ekka leading the left forward company. The troops faced intense shelling and small arms fire from the enemy during the assault.

Albert Ekka noticed an enemy light machine gun firing from a bunker, inflicting heavy casualties on his company. Without regard for his safety, he charged the bunker, killed two enemy soldiers and silenced the machine gun.

Despite sustaining serious injuries, he bravely pressed on, fighting valiantly beside his comrades and capturing bunker after bunker. After traversing 1½ km, Albert Ekka and his team reached the northern edge of their objective, only to encounter a fierce barrage from an enemy medium machine gun stationed on the second floor of a well-fortified building. This formidable defence inflicted significant casualties on the Indian troops, delaying their advance and testing their resolve.

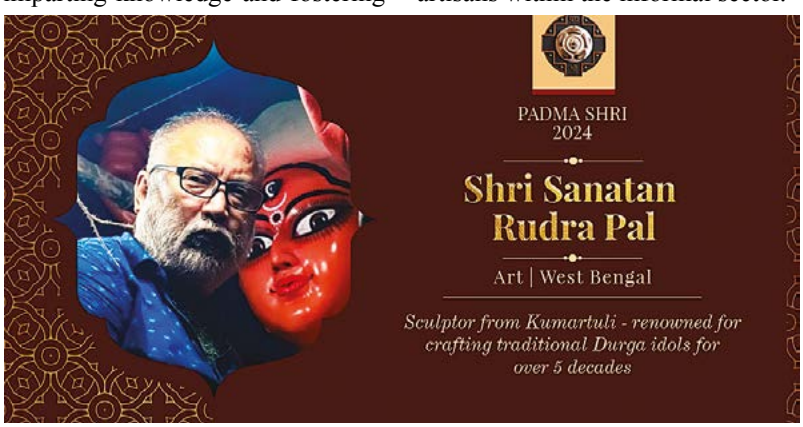
Albert Ekka displayed extraordinary courage in battle. Ignoring danger, he crawled to the enemy bunker and hurled a grenade, killing one soldier and injuring another. When the MMG (Medium Machine Gun) continued to pose a threat, he scaled the wall, entered the bunker and stabbed the combatant, silencing the weapon. **His actions saved many lives and ensured the success of his mission.** Tragically, he later succumbed to his injuries. The fall of Gangasagar left Akhaura vulnerable, prompting the enemy to retreat. For his unmatched bravery and determination, **Lance Naik Albert Ekka was posthumously awarded the Param Vir Chakra, the highest wartime gallantry medal.**

Sanatan Rudra Pal is an esteemed Indian sculptor whose unparalleled skill in crafting majestic and towering *Rudrani* (angry goddess) *Durga* idols, characterized by flawless anatomical precision which has garnered him widespread recognition and admiration internationally.

Born on 1st March 1955, Pal embarked on his inspiring journey into the world of sculpture at the young age of 10.

Under the watchful guidance of his uncle, Rakhal Pal who was honoured with the prestigious President's Gold Medal, Pal learned the intricacies of the art form. His father, Mohan Banshi Rudra Pal, also played a crucial role in imparting knowledge and fostering his development. This family legacy of artistry laid a strong foundation for his work. Moreover, Pal's early exposure to India's rich cultural heritage, deeply rooted in mythology, folklore and tradition greatly influenced his art.

Pal, having distanced himself from traditional influences in his youth, has grown into a successful entrepreneur in the art and sculpture sector. His studio, Jayanti Art Museum in Kolkata, employs nearly a hundred artisans, with increased numbers during peak seasons. **His intricate craftsmanship has attracted international attention, leading to exports of his idols based on demand.** This highlights his significant role, not only as a prominent sculptor but also in providing economic stability to artisans within the informal sector.



His work has gained further recognition with the inscription of Durga Puja in Kolkata on UNESCO's Representative List of the Intangible Cultural Heritage of Humanity in 2021, marking it as the first Asian festival to achieve this honour (as noted by the Ministry of Culture). Pal remains attuned to contemporary trends and adapts his work to reflect societal needs. **Notably, he addresses climate change and sustainable development by creating eco-friendly idols that minimize water pollution during the immersion process.**

Sanatan Rudra Pal has received multiple awards for his work in sculpture, including the **Asian Paints Sharad Samman** and the **Berger Paints Sharad Samman.**

Smt Gaayathiri G

Anchal Bhateja

A beacon of hope for the visually impaired

In a world where adversity often acts as a barrier to dreams, people like **Anchal Bhateja** stand out as beacons of resilience and determination. Anchal's battle with blindness began at a critical juncture in her life, right before her board exams. Faced with the daunting prospect of navigating through education without sight, she embarked on a journey of self-discovery and adaptation. With the help of screen readers and other digital accessibility tools, Anchal not only completed her schooling but also went on to pursue higher education in law.

Anchal's story underscores the challenges faced by individuals with disabilities in accessing education and employment opportunities. Despite her father's initial apprehensions, Anchal's determination propelled her to become the **first blind student at the prestigious National Law School of India University.**

However, Anchal's journey didn't end with admission into law school; it marked the beginning of a series of triumphs over societal barriers. Embracing technological innovations, Anchal transitioned from using a scribe for exams to typing out her responses independently, setting new standards of efficiency and autonomy. As Anchal pursued her career in Telecom Media and Technology Law, she encountered both opportunities and obstacles in the digital landscape. While technological advancements facilitated independent living for persons with disabilities, inaccessible websites and lack of awareness among IT personnel posed significant challenges in the workplace.

The Rights of Persons with Disability Act, 2016, mandates accessible infrastructure and reasonable accommodations in educational institutions and workplaces. However, the implementation of these provisions requires widespread awareness and concerted efforts to bridge the digital divide.

Anchal's experience highlights the transformative impact of inclusive policies and

accommodations in fostering diversity in professions like law. As employers recognize the value of diversity, the legal industry is gradually evolving into a more inclusive space, offering opportunities for lawyers with disabilities to thrive.

Anchal's internship at Justice DY Chandrachud's chambers exemplifies the importance of reasonable accommodations and understanding in professional settings. By accommodating Anchal's unique needs, Justice Chandrachud not only empowered her to excel but also set a precedent for inclusive practices in the legal fraternity.

Ultimately, Anchal's journey serves as a reminder of the power of determination and digital inclusion in realising one's dreams. As society embraces accessibility awareness and implements inclusive policies, we move closer to building a world where everyone can unleash their full potential.

Shri Sridhar P

Nobel Prize for medicine 2024

The Nobel Committee has awarded this year's Nobel Prize for medicine or Physiology, jointly to **Victor Ambros** and **Gary Ruvkun** for the discovery of **"microRNA"** and its role in post transcriptional gene regulation" which throws new insights into the pathways behind cell differentiation and development.

Pathway of form and function: It is now well-established that genes are the storehouse of information.

A gene encodes a message to build a protein to enable form/ function that regulates the gene. The information coded in DNA is converted to a sort of soft copy - a draft form called RNA that gets translated into a protein. This is called **Transcription**. In short DNA to RNA to protein synthesis through this process of transcription literally brings genes to life. Gene regulation is an important function of proteins, for it is essential to meet the changes in cellular environment.

The work of Nobel laureates: All cells in our body contain the same number of chromosomes but cells differentiate and perform different functions. The mystery of how genes are able to pull it off ignited the imagination of American biologists Victor Ambros and Gary Ruvkun. Their discovery of micro RNA (mRNA) and its role in gene regulation brought new insights. **Their discovery of mRNA and its crucial role in gene regulation changed scientists' view of molecular biology.** The mutant strains of worms offer great insight into genes, hence the Nobel laureates took this path. They worked on this round worm *c.elegans*. Worms and humans seem to have more or less the same number of genes.

Worms have specialized cells. This makes studying them worthwhile. The mRNAs discovered by them seem to regulate genes with incredible specificity.

Why gene regulation is crucial: One of the astonishing discoveries of genetic research has revealed that the genome is largely intact but certainly the expression of genes changes and modifies depending on the external cellular environment. That could be infection, toxins, nutrient level, stress, hormonal imbalance etc. Gene expression needs to be regulated continuously to orchestrate a symphony of activities that restores normalcy.

Researchers working on mRNA have found that **mRNA can regulate the expression of many genes. Conversely a single gene can be regulated by multiple mRNAS, thereby coordinating and fine tuning the entire network of genes.** Extensive research has also yielded the knowledge that cells and tissues do not develop normally without micro RNAs. **The work of Victor Ambros and Gary Ruvkun have truly opened the flood gates of mRNA research.**

Answers of page 59

Cross Word - All about Lucknow!

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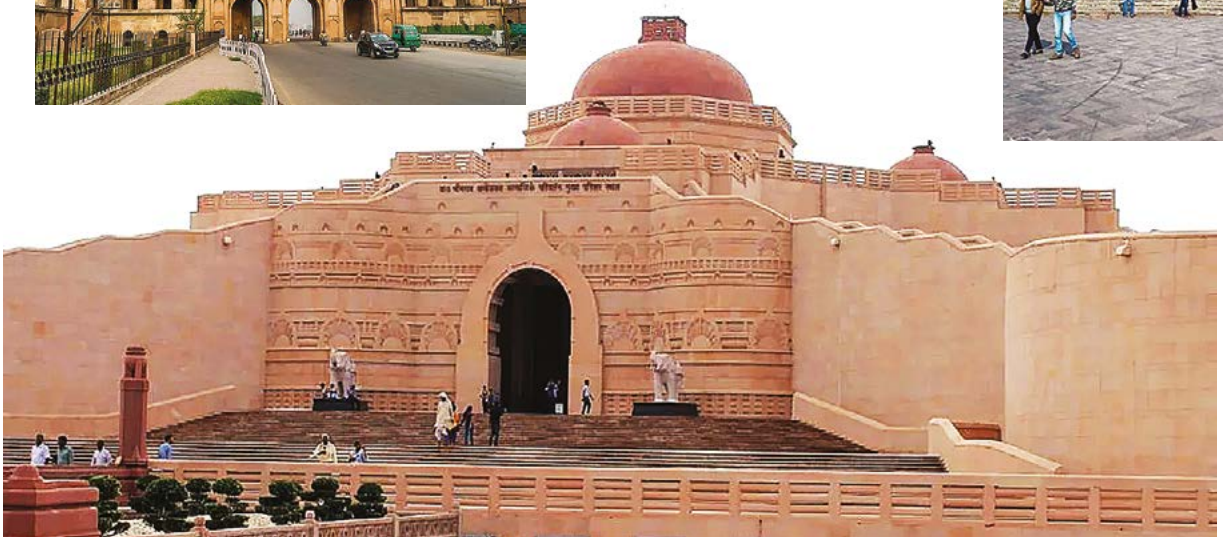
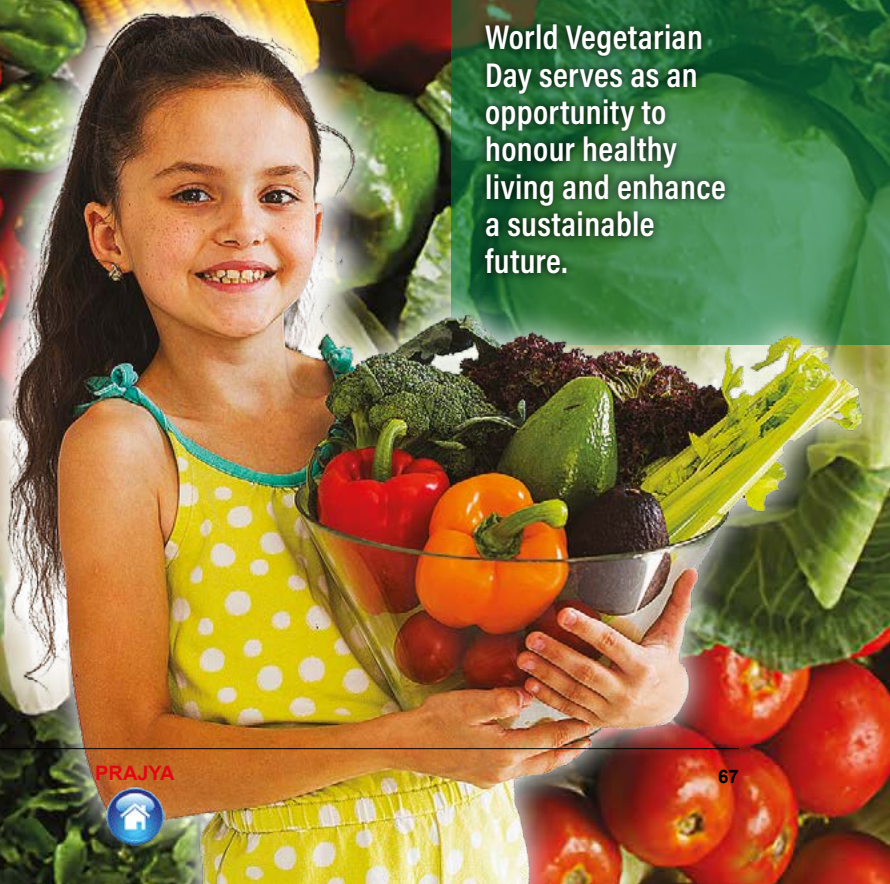


WORLD VEGETARIAN DAY

1st October

World Vegetarian Day is celebrated annually to promote the many incentives of a vegetarian lifestyle, both for individual health and that of planet.

World Vegetarian Day serves as an opportunity to honour healthy living and enhance a sustainable future.






CHENNAI AIR SHOW 2024