

Daily Current Affairs

 Date : 13 September, 2025



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RAJASTHAN



New variety of Barley RD 3064



Why in News?

- The new variety of barley RD 3064 is developed by the Rajasthan Agricultural Research Institute located in Durgapura (Jaipur).



Key Points:

- This variety of barley was presented in the annual meeting of the 64th All India Wheat and Barley Research Project held in Gwalior.
- This variety of barley has also been approved by the Central Variety Release Committee (CSC).
- Earlier, the Central Government has also issued the official gazette notification of the cumin variety 'Jodhpur Cumin-1 (JC-1)' which is developed by Jodhpur Agricultural University.
- Before starting the production of any variety, it is sent to the Ministry of Agriculture, and from there its production starts after the gazette notification.
- The new variety of barley will reduce dependence on foreign countries for barley used in beer, chocolate, baby food as well as health drinks.
- According to scientists, the maximum grain yield of this variety will be 91.67 quintals per hectare. The height of this plant will be 90 to 100 cm and the length of the ears will be approximately 9 to 10 cm.
- Climate change will also have less impact on this crop yield.

Facts for Prelims:

- **Main varieties of Barley produced in Rajasthan:** Karan, Kailash, Kaidar, Jyoti.

Millet Outlets in Rajasthan



Why in News?

- So far 152 millet outlets have been opened by the cooperative department in Rajasthan, which is about four and a half times more than the target set.



Key Points:

- Millet outlets (Shri Ann Sales Centres) are being operated by cooperative institutions and women self-help groups of Rajeevika in Rajasthan.
- **Millet:** According to the United Nations, coarse grains or millets are those traditional grains, which are other than wheat and rice, such as jowar, bajra, ragi, maize, barley, kodo, foxtail and buckwheat etc. Coarse grains are also called 'nutritious grains' or 'Shri Ann'.
- **Main products available at Millet outlets:** Savan, Kutki, Kodo, Kangani, Choti Kangani, Roasted Jowar, Roasted Bajra, Ragi biscuits, Oats biscuits, cookies, Shri Ann Daliya, Ragi flakes etc.
- In compliance with the budget announcement of the state government, these millet outlets are being opened across the state to increase the reach of Shri Ann products to the general public, to popularize them and to create employment opportunities by selling millet products of self-help groups of cooperatives and Rajeevika.



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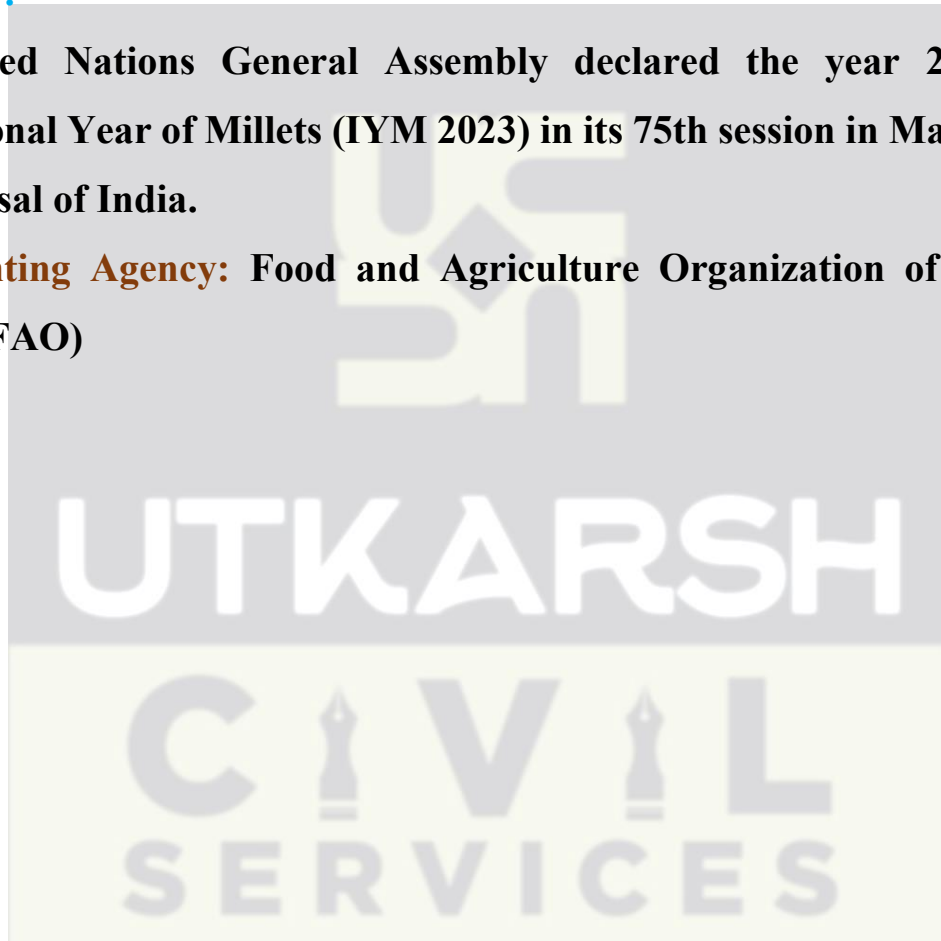


- On July 17, 2025, 64 millet outlets were inaugurated by Union Home and Cooperation Minister Amit Shah during the 'Cooperative and Employment Festival' organized in Jaipur.

Facts for Prelims:

IYM 2023:

- The United Nations General Assembly declared the year 2023 as the International Year of Millets (IYM 2023) in its 75th session in March 2021 on the proposal of India.
- **Implementing Agency:** Food and Agriculture Organization of the United Nations (FAO)



-:4:-

International Conference 'India Valves 2025'



Why in News?

- International Conference 'India Valves 2025' has been organized in Jaipur from 11 to 13 September 2025.



Key Points:

- **Objective of the Conference:** Discussion on the latest techniques and research for the treatment of heart valve diseases.
- **Main focus of the Conference:** On transcatheter valve therapy.
- More than 30 international speakers from the US, Canada, Japan, Australia and Europe participated in this conference.

Facts for Prelims:

Heart Valve Disease:

- In a heart valve disease, one or more valves of the heart do not open or close properly, which obstructs the flow of blood in the body.

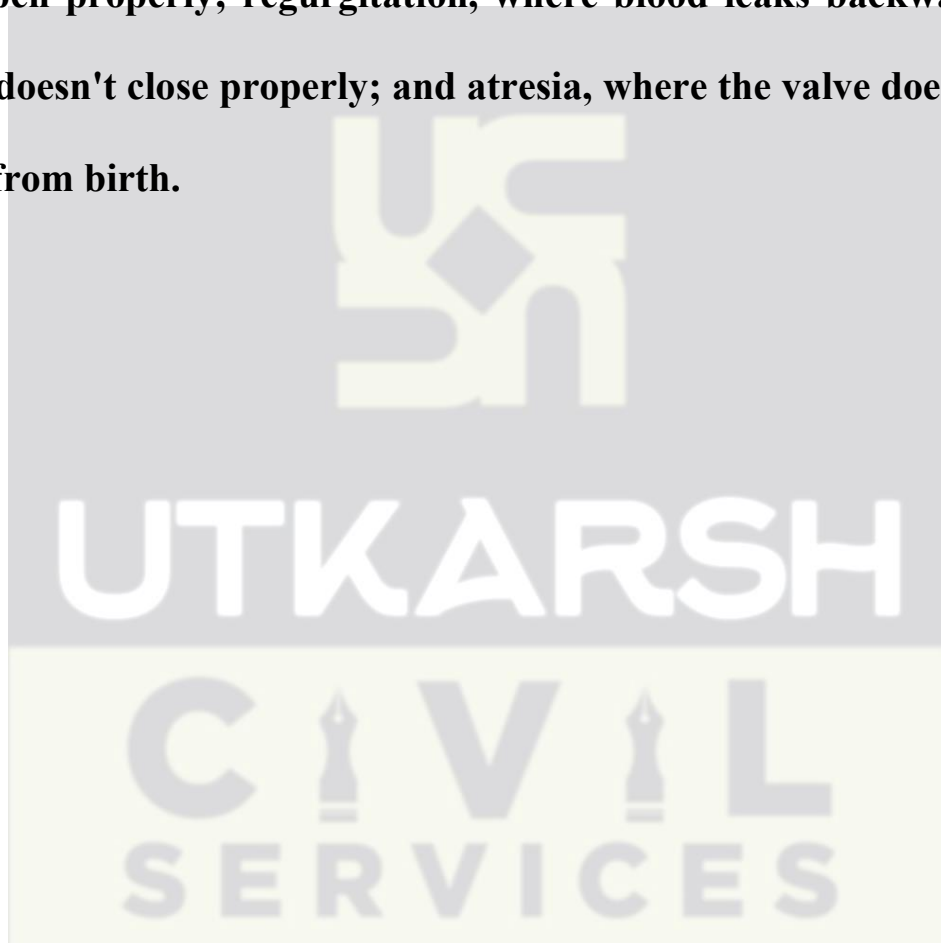
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- Its main symptoms include shortness of breath, irregular heartbeat, chest pain, fatigue, dizziness and swelling in the legs and abdomen.
- There are three main types of heart valve disease: stenosis, where the valve doesn't open properly; regurgitation, where blood leaks backward because the valve doesn't close properly; and atresia, where the valve doesn't develop properly from birth.



-:6:-

Mahavir Saini - Para Athletics Coach



Why in News?

- Mahavir Saini has been appointed as the Chief Coach of the Indian team for the 'World Para Athletics Championships-2025' to be held from 25 September to 5 October 2025 at the Jawaharlal Nehru Stadium in New Delhi.



Key Points:

- India is hosting these games for the first time, in which players from 107 countries of the world will participate.
- A 73-member team from India is participating in this competition, which will include 54 men and 19 women.
- Paralympic medalists Sundar Singh Gurjar, Mahendra Singh Gurjar and Sandeep Chaudhary from Rajasthan are also part of the Indian team.



Facts for Prelims:

- Mahavir Prasad Saini was awarded the Dronacharya Award for the year 2023 by the President of India for his achievements in para athletics.
- He has trained many outstanding para athletics players including Sundar Singh Gurjar who won a bronze medal at the 2021 Paralympic Games held in Tokyo, Japan and Rakesh Bhaira who won a bronze medal at the 2023 Para-Asian Games held in Hangzhou, China.
- Mahaveer Saini has also been awarded the Guru Vashisht Award by the Rajasthan State Sports Council.

Sawai Mansingh Hospital ranks First in the country in Emergency Services



Why in News?

- Recently, Sawai Mansingh Hospital, Jaipur got the highest rank in the country in the treatment of seriously injured people coming to the emergency in Neurotrauma and Trauma Center.



Key Points:

- SMS Hospital has been awarded the 'Best Institution Award 2025' by the Neurotrauma Society of India.
- After coming to the emergency services in SMS, the treatment of the injured starts in 6 to 8 minutes, which is better than the standards set by the National Health Mission (NHM).
- The trauma center of SMS Hospital, established in the year 2014, is the largest and most modern center in the country.

NEWS IN SHORTS

S. No.	News
1.	<p>1962-MVU Rajasthan Chatbot</p> <ul style="list-style-type: none">■ The Maharashtra government has praised Rajasthan's '1962-MVU Rajasthan Chatbot' model and has decided to adopt this model in its state.■ The 1962-MVU Rajasthan chatbot operated by the Animal Husbandry Department, Government of Rajasthan is getting appreciation across the country.
2.	<p>Rs 541 crore released to Rajasthan under Central Finance Commission (Urban) grant</p> <ul style="list-style-type: none">■ Recently, the Central Government released an amount of Rs 541 crore under Central Finance Commission (Urban) grant to Rajasthan. Along with this, the Union Education Ministry also released Rs 580 crore for the Samagra Shiksha Abhiyan in the state.
3.	<p>New Species of Mushroom: Golden Oyster</p> <ul style="list-style-type: none">■ A new species of Dhingri mushroom, Golden Oyster, has been found in the forest located at Sagwarapal in Rishabhdev (Udaipur).■ Scientific Name: Pleurotus citrinopileatus.■ The team of All India Coordinated Mushroom Research Project operated at Maharana Pratap University of Agriculture and Technology, Udaipur has discovered this species which has edible and medicinal properties.



INTERNATIONAL



Nepal's new Prime Minister: Sushila Karki



Why in News?

- Recently, a new interim government has been formed in Nepal under the leadership of former Chief Justice Sushila Karki.



Key Points:

- Selection:** By Gen-Z leader, Nepali Army and President Ramchandra Paudel.
- Sushila Karki is the first woman Prime Minister to lead Nepal.
- Along with this, Karki was the first woman Chief Justice of Nepal from July, 2016 to June, 2017.
- President Ramchandra Paudel administered the oath of office to Karki at a ceremony held at the Presidential Palace in Kathmandu.

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Other Important Points:

- **Generation-Z (Gen-Z) Revolution:** Gen Z is the newest generation, born between 1997 and 2012 and their age is between 13 to 28 years (born in the era of internet, smartphones and social media).

Relations between India and Nepal:

Shared Cultural Heritage	Hinduism and Buddhism: Pashupatinath in Kathmandu and Buddha's Birth in Lumbini. India is also supporting two heritage projects, namely Pashupatinath Riverfront Development and Bhandarkhal Garden Restoration at Patan Durbar.
Economic Relations	Trade: India is Nepal's largest trading partner, top source of tourists, sole supplier of petroleum products and the largest source of total foreign investment. Investment: Indian companies are the largest investors in Nepal, accounting for about 40 percent of the total approved foreign direct investment.
Energy Cooperation	Tripartite Agreement: The tripartite agreement between Nepal, India and Bangladesh helped India, Nepal and Bangladesh to start exporting hydropower. The Motihari-Amlekhganj petroleum pipeline, launched in 2019, was the first cross-border pipeline in South Asia.
Defence Cooperation	The Indian and Nepalese armies conduct joint military exercises 'Surya Kiran' annually.
Disaster Management	The two countries are working through BIMSTEC for collective disaster response. India also provided a financial package of \$75 million for the development of earthquake-affected areas of Nepal in 2015.

ENVIRONMENT & ECOLOGY

Disaster Risk Index (DRI)



Why in News?

- Himachal Pradesh CM in a meeting with 16th Finance Commission stressed on revamping the Disaster Risk Index (DRI).



Key Points:

- It was prepared by the 15th Finance Commission.
- **Objective:** To bring fairness in resource allocation (fiscal federalism) and take into account disaster risks faced by the states.
- **Coverage:** It covers 14 hazards, 14 vulnerabilities and 2 exposures.
- **Hazards:** Earthquake, cyclone, flood, drought, etc.
- **Vulnerables:** Rural/Urban poor, children and women are most vulnerable, most.
- **Exposures:** It considers two parameters namely population and GDP.

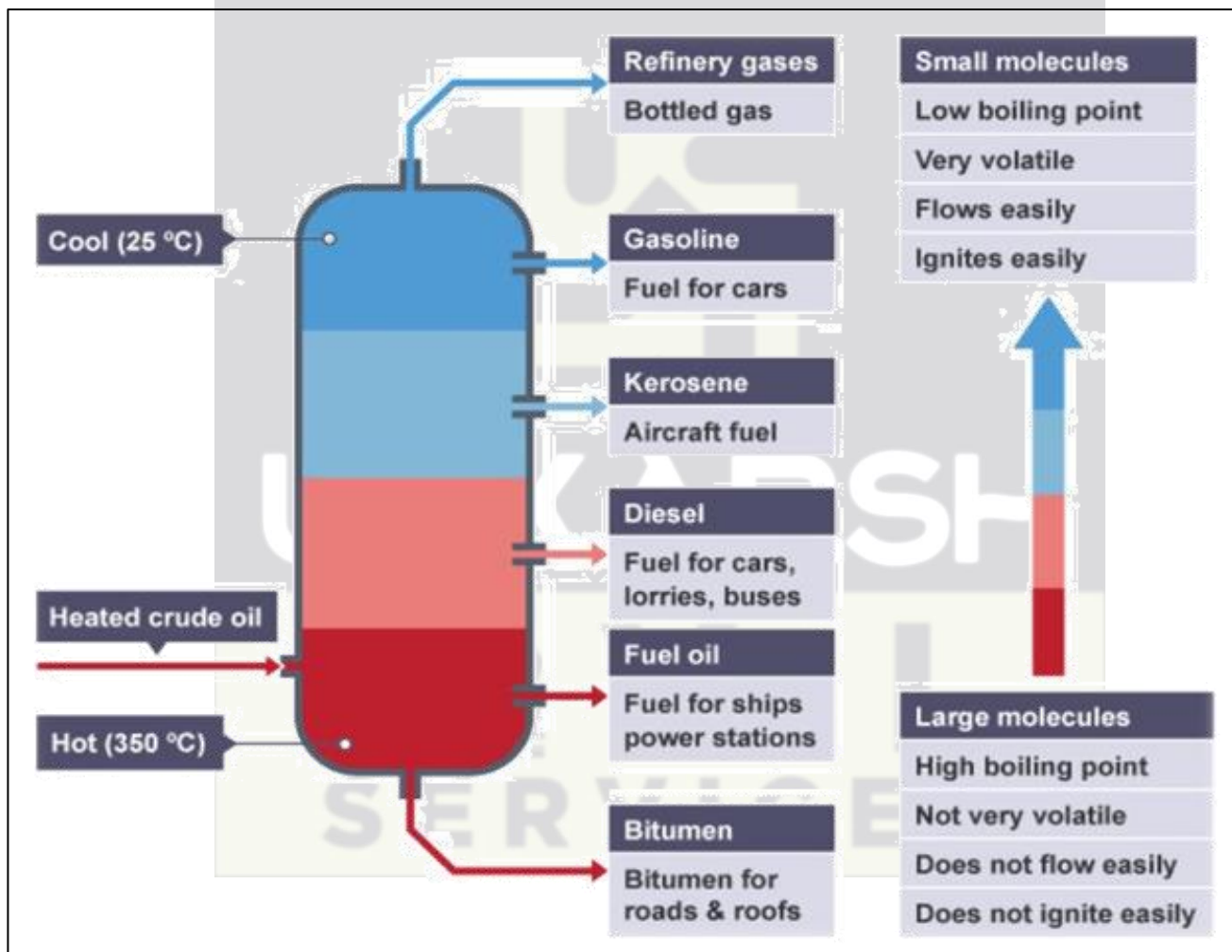
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Isobutanol blends with Diesel



Why in News?

- India is exploring the possibility of blending isobutanol with diesel after failed ethanol-diesel trials.



Key Points:

- Isobutanol:** It is a four-carbon alcohol ($C_4H_{10}O$), which is flammable, colourless and traditionally used as a solvent in the paint, coating and chemical industries.
- It is produced from both petrochemical processes and fermentation of biomass.

Advantages over Ethanol

- Higher energy density than ethanol (closer to diesel).
- It has a lower hygroscopicity (it absorbs less water than ethanol), reducing the risk of corrosion in engines and pipelines.
- **Isobutanol blend Trials:** The Automotive Research Association of India (ARAI) is testing a 10% isobutanol-diesel blend.
- Isobutanol is also being explored as an independent fuel and as compressed natural gas (CNG)-isobutanol flex-fuel options for tractors and agri-machinery.

Benefits:

- Promotes a cleaner alternative to fossil fuels.
- Promotes energy security.
- It supports the energy transition and farmer income support goals of India's National Biofuel Policy (2018).

⌚ SCIENCE & TECHNOLOGY 🌡

AdFalciVax Vaccine



Why in News?

- The Government of India has allowed private companies to manufacture the country's first indigenous multi-stage malaria vaccine AdFalciVax.



Key Points:

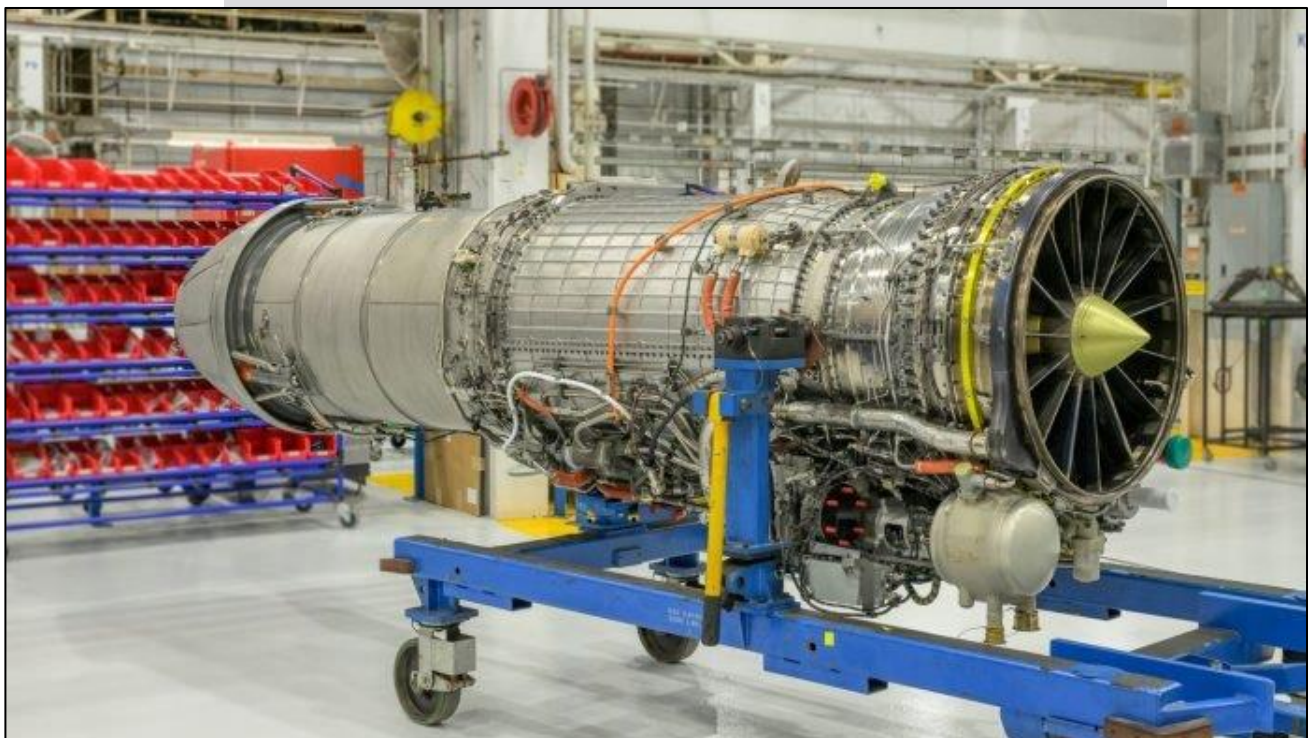
- **Development by:** Indian Council of Medical Research (ICMR).
- **Mode of Action:** This vaccine targets Plasmodium falciparum (the most deadly malaria parasite species) at multiple stages.
- **Features:** It is a recombinant chimeric vaccine, in which antigens taken from different stages of the parasite have been combined into a single immunogen by recombinant DNA technology.
- **Advantages:** This vaccine provides two-stage protection, maintains immunity for a long time and can be produced at a low cost.

F404-IN20 Engine



Why in News?

- Hindustan Aeronautics Limited (HAL) has been awarded the F404-IN20 engine by US company GE Aerospace. The third F404-IN20 engine has been received from GE Aerospace.



Key Points:

- The supply of F404-IN20 engines is necessary to ensure timely delivery of Tejas Mk-1A aircraft.

F404-IN20 Engine:

- **Type:** It is an after-burning turbofan engine, specially designed for India's LCA Tejas Mk-1A fighter aircraft.
- **Power:** It generates a thrust of about 85 kilo Newton (kN), enabling Tejas to fly at high subsonic and supersonic speeds.

First AI-based weather forecasting program



Why in News?

- Under the first AI-based weather forecasting program, for the first time, the Ministry of Agriculture and Farmers Welfare used the power of AI for farmers to send AI-based monsoon forecasts for the year 2025 to about 3.8 crore farmers in 13 states through SMS (M-Kisan).


मंत्रिमंडल निर्णय 11-09-2024

मिशन मौसम

मंत्रिमंडल ने 2 वर्षों में 2,000 करोड़ रुपये के परिव्यय के साथ अधिक मौसम-अनुकूल और जलवायु-समर्थित भारत बनाने के लिए 'मिशन मौसम' को मंजूरी दी

लाभ

- ❖ भारत के मौसम और जलवायु से संबंधित विज्ञान, अनुसंधान और सेवाओं को बढ़ावा देने के लिए एक बहुआयामी और परिवर्तनकारी पहल
- ❖ खराब मौसम की घटनाओं और जलवायु परिवर्तन के प्रभावों से निपटने में नागरिकों और अंतिम-छोर तक उपयोगकर्ताओं सहित हितधारकों को बेहतर ढंग से व्यवस्थित करने में मदद मिलेगी
- ❖ मिशन का ध्यान समय और स्थानिक पैमाने पर अत्यधिक सटीक और समय पर मौसम और जलवायु जानकारी प्रदान करने के लिए अवलोकन और समझ में सुधार करना है।
- ❖ मिशन को पृथ्वी विज्ञान मंत्रालय के 3 संस्थानों द्वारा कार्यान्वित किया जाएगा:
 - भारत मौसम विज्ञान विभाग
 - भारतीय उष्णदेशीय मौसम विज्ञान संस्थान
 - राष्ट्रीय मध्यम अवधि मौसम पूर्वानुमान केन्द्र



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Key Points:

- India is using AI and machine learning to analyze data received from various sources.
Sources of forecasts used by the Ministry of Agriculture and Farmers Welfare; Two Open-Access Models:
- Google's Neural GCM
- ECMWF's AIFS (Artificial Intelligence Forecasting Systems)
First AI-based weather forecasting program/India's major initiatives related to AI based forecasting:
- **Weather Information Network and Data System (WINDS):** The Ministry of Agriculture and Farmers Welfare launched WINDS to generate hyper-local, long-term weather data.
- **AI and Machine Learning Centre:** The Ministry of Earth Sciences has set up the AI and Machine Learning Centre in Pune to improve weather forecasting, which provides real-time forecasts of rainfall and snowfall using Doppler radar data.
- **AI-based Monsoon Forecasting Models:** The DST Centre of Excellence in Climate Modelling (CECM) at IIT-Delhi has developed AI/ML-based models for monsoon forecasting using historical data and climate drivers such as El Niño and Indian Ocean Dipole (IOD).
- **Mission Mausam:** Launched by the Ministry of Earth Sciences (MoES) with the aim of modernizing the Indian weather and climate forecasting systems in the year 2024.

NASA: Discovery of possible Bio-signatures on Mars



Why in News?

- NASA's Perseverance Rover discovered organic elements in the rocks of Neretva Vallis, a dried-up river on Mars.
- This is a possible sign of the existence of microbes/life on Mars billions of years ago.



Key Points:

- **Discovery Announced:** During NASA's press conference on September 10, 2025.
- **Published in:** Nature magazine.
- **Discovery Location:** Neretva Vallis, Jezero Crater (ancient river system)
- **Rock structure:** Bright Angel Formation, clay and clay-rich mudstones.
- **Bio-signatures/Chemical signals:** High concentrations of 'leopard-like spots' and 'poppy seeds' were discovered at the microscopic level, which include the following chemical elements-

1. Organic Carbon
2. Oxidized Iron Sulphide
3. Iron Phosphate

- **Importance of Discovery:** Scientists believe that billions of years ago, Mars had liquid water, a thick atmosphere and active geochemistry, which could have been conducive to life.

Other Important Points:

- **NASA's Perseverance Mission:** Perseverance is a Mars rover of NASA which was launched on July 30, 2020.
- **Landing:** It landed on February 18, 2021 in Jezero Crater, the site of an ancient lake and river delta.
- **Purpose:** Perseverance has collected more than 30 samples that will be returned to Earth by a future mission.
- **Task:** The rover is searching for fossils of microorganisms in rocks formed during Mars' warm, humid past.
- **Timeline and Cost:** The current estimated cost is \$11 billion, which could push the timeline from the early 2030s to the 2040s.

Ingenuity; NASA's Mars Helicopter:

- Perseverance also launched a small helicopter drone called 'Ingenuity'.
- Ingenuity explored the area around the rover until its 72nd and final flight on January 18, 2024.
- A microphone funded by the Planetary Society was launched on NASA's Mars Polar Lander, the world's first crowdfunded science instrument to fly to another planet, and Perseverance's microphone recorded sounds from Mars for the first time.

Commissioning of INS Aravali



Why in News?

- On September 12, 2025, the Indian Navy commissioned INS Aravali in Gurugram under the MAHASAGAR: Mutual and Holistic Advancement for Security and Growth Across Regions.



Key Points:

- During the commissioning ceremony, the Navy Chief was given a guard of honour by 50 soldiers.
- **Named:** Avichal which is derived from the Aravalli mountain range.
- **Function:** It will provide support to various information and communication centres of the Indian Navy.
- **Motto:** Inspired by 'Samudra Surakshayam: Sahayog' or 'Maritime Security through Collaboration'.

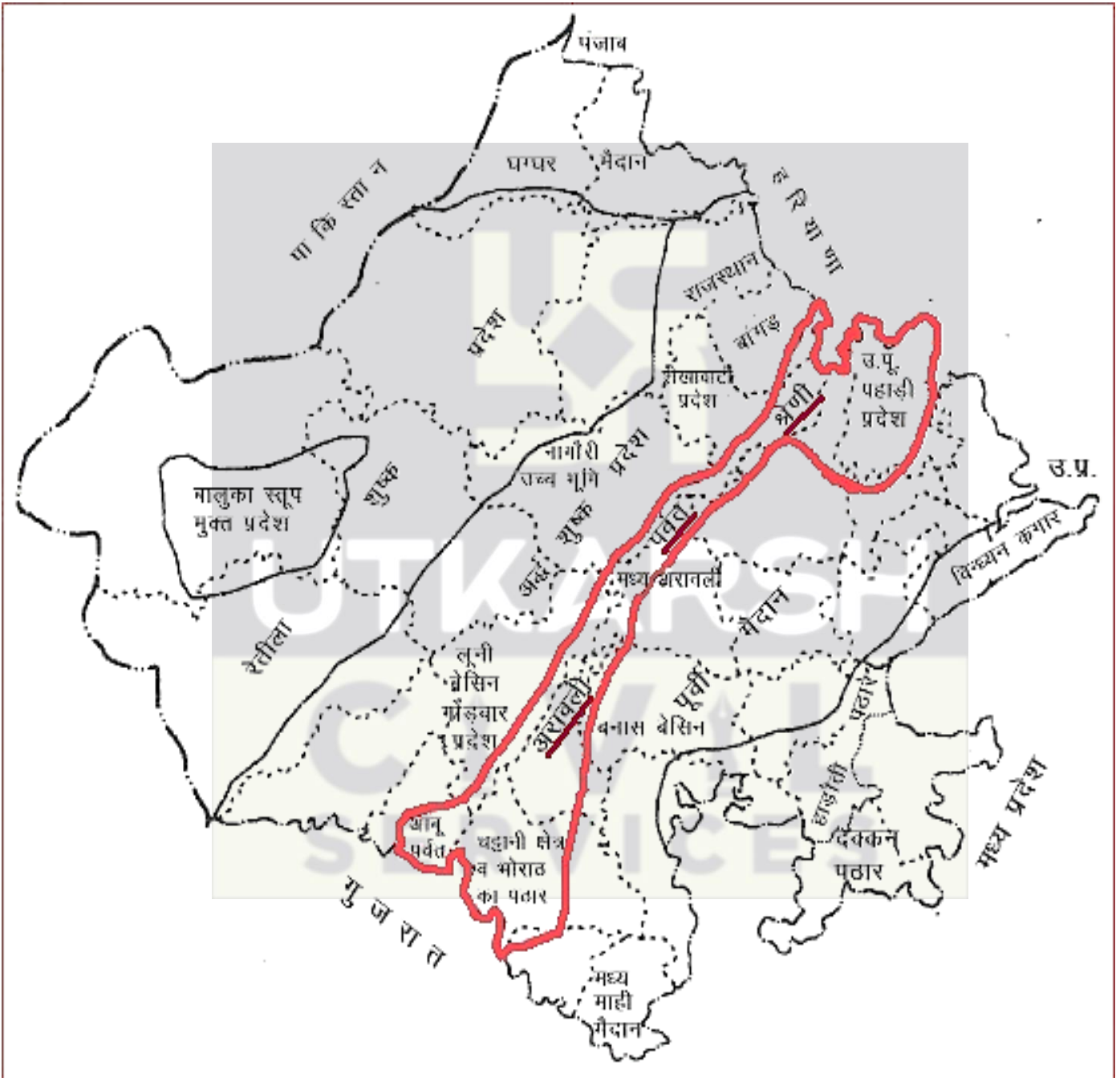
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Other Important Points:

Aravalli Mountain Range:



- **Extension:** It extends from Gujarat to Delhi through Rajasthan, of which 80 percent (560 km) is located in Rajasthan and 20 percent is located in Haryana, Delhi and Gujarat.
- **Extension in Rajasthan:** From Sirohi to Khetri.

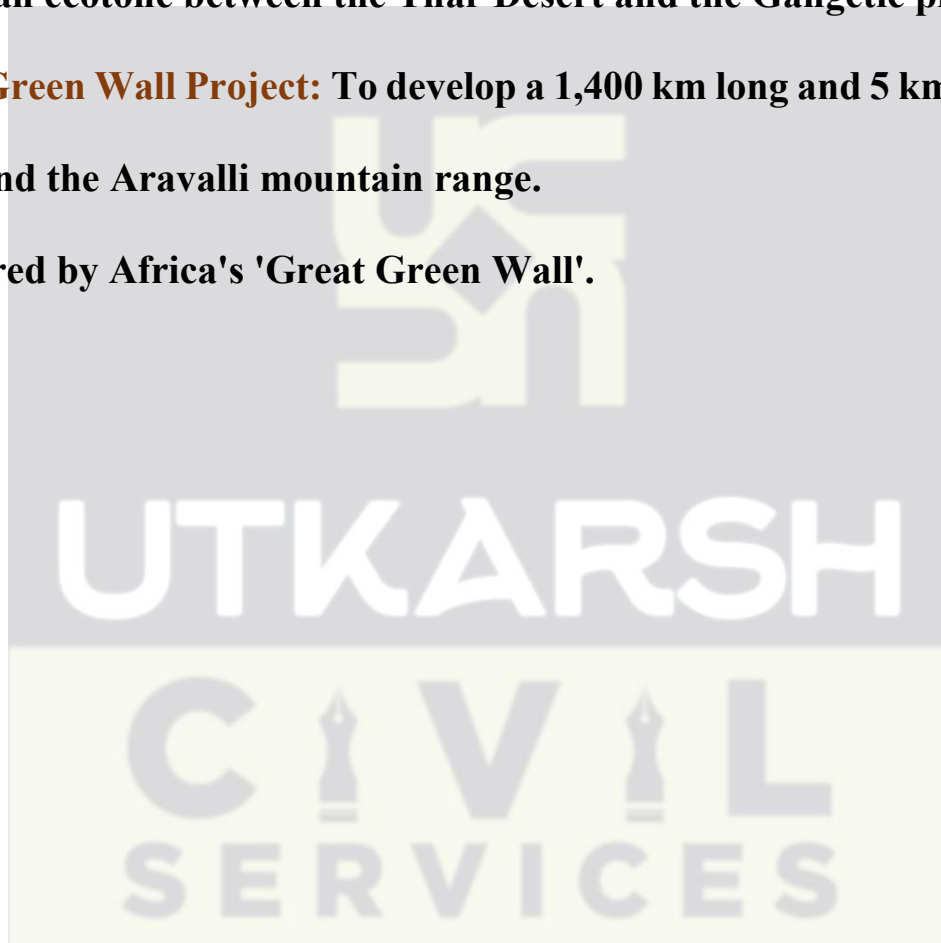
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- **Length and Width:** 692 km and width is between 10 to 120 km
- **Division:** Northern, Central and Southern Aravalli.
- **Highest Peak:** Gurushikhar (Sirohi), whose height is 1,722 meters.
- It acts as an ecotone between the Thar Desert and the Gangetic plain.
- **Aravalli Green Wall Project:** To develop a 1,400 km long and 5 km wide green wall around the Aravalli mountain range.
- It is inspired by Africa's 'Great Green Wall'.



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🎓 POLITY 🎓

Commonwealth Parliamentary Association



Why in News?

- Recently, the Lok Sabha Speaker inaugurated the 11th Commonwealth Parliamentary Association-India Region Conference in Bengaluru.



Key Points:

- Established:** It was established in 1911. It is one of the oldest institutions of the Commonwealth.
- India is a member of this association.
- Headquarters-Secretariat:** House of Parliament (United Kingdom), London.
- Objective:** Provides a platform for lawmakers to:
 - Collaborate on issues of mutual interest.
 - Share good policies and experiences.



PERSONALITY



Acharya Vinoba Bhave (1895-1982)



Why in News?

- The Prime Minister paid tribute to Acharya Vinoba Bhave on his birth anniversary.



Key Points:


- He was born in 1895 in Gagode (a tribal village in Maharashtra).
- He is considered the 'National Teacher of India' and the spiritual successor of Mahatma Gandhi.

Contributions in the freedom struggle:

- Participated in the Quit India Movement.
- Became the first satyagrahi in the Individual Satyagraha movement.
- Vinoba Bhave founded the Gram Seva Mandal in 1934 to organise village service.
- He is particularly known for the Bhoodan Movement (1951).



NEWS IN SHORTS ⚡

S. No.	News
1.	<p>Jasmine Lamboria: Boxing</p>  <ul style="list-style-type: none">■ She has become the first Indian to reach the final of the World Boxing Championship, 2025 held in Liverpool, with this India's fourth medal in the championship has been confirmed.■ Defeated in the semi-finals: Defeated Omelin Carolina Alcala Segovia of Venezuela 5-0.■ Weight category: 57 kg.■ From: Haryana

2.

Albania: World's first AI-generated minister appointed to tackle corruption

- Recently, Albania has appointed the world's first Artificial Intelligence (AI)-generated government minister with the aim of making the country corruption-free.
- **Announcement:** Albania's Prime Minister Edi Rama announced the Digital Minister in his cabinet.
- The digital assistant is named 'Diela', which means 'sun' and has been helping people access government services online since January.
- Diela is depicted as a woman wearing traditional Albanian attire.



3.

Exercise Siyom Prahar



- Indian Army conducted Exercise Siyom Prahar in Arunachal Pradesh.
- **Objective:** To test the use of drones in tactical operations in war-like situations.