

DAILY CURRENT AFFAIRS (DCA)

Time: 45 Min

Date: 29-08-2024

Table of Content

India's Weather Forecasting Needs an Upgrade

U.P. Digital Media Policy, 2024

India's Pharma Sector to Reach \$130 Billion by 2030

Government Agrees to Further Discussions with Trade Unions on Labour Codes

Smart Cities under the National Industrial Corridor Development Programme

Order for SIG 716 Rifles: Modernization Effort of the Indian Army

NEWS IN SHORT

Axis of Resistance

India and Russia Working Plan to Handle Emergencies

44th PRAGATI Interaction

UPI Block Mechanism Facility for Secondary Market Trading

Green Shoots

Expansion of 'Agriculture Infrastructure Fund'

ISRO Designed Humanoid Skull

Solar Paraboloid Technology

Blue Origin

INDIA'S WEATHER FORECASTING NEEDS AN UPGRADE

Context

- The recent extreme weather events have put the focus back on the country's weather prediction capabilities and ways to improve them.

Weather Prediction in India

- India, at present, depends on **satellite data and computer models** for weather prediction. The **Indian Meteorological Department (IMD)** uses the **INSAT** series of satellites and supercomputers.
- In India three satellites, **INSAT-3D, INSAT-3DR and INSAT-3DS** are used mainly for meteorological observations.
- Forecasters use satellite data around **cloud motion, cloud top temperature, and water vapor content** that help in rainfall estimation, weather forecasting, and tracking cyclones.

Initiatives taken to improve the efficiency

- The **'National Monsoon Mission'** was set out in **2012** to move the nation over to a system that relies more on **real-time, on-the-ground data gathering**.
- The IMD is also increasingly using **Doppler radars** to improve efficiency in predictions. The number of Doppler radars has increased from **15 in 2013 to 37 in 2023**.
 - Doppler radars are used to predict rainfall in the immediate vicinity, making predictions more timely and accurate.
- The weather agency is now using **manned and automatic weather stations, aircraft, ships, weather balloons, ocean buoys and satellites** to gather information on atmospheric temperature, pressure humidity, wind speed and direction and sea surface temperatures.
 - The data is then fed into a supercomputer at the **Indian Institute of Tropical Meteorology in Pune**.
- The Ministry of Agriculture & Farmers Welfare have initiated the **weather information network and data system (WINDS)** under which more than **200,000 ground stations** will be installed, to generate long-term, hyper-local weather data.

Challenges

- Lack of weather monitoring ground stations:** Currently, IMD operates around **800** automatic weather stations (AWS), **1,500** automatic rain

gauges (ARG) and **37** doppler weather radars (DWR).

- This is against the total requirements of more than **3,00,000** ground stations (AWS/ARG) and around 70 DWRs.
- Lack of coordination:** Several Indian State governments and private companies operate a significant network of ground stations (more than 20,000), many of which are not currently used by IMD due to inaccessibility and/or reliability of the data.
- Extreme Weather Events:** Events, such as extreme rainfall, landslides, and cloudbursts, have become more frequent due to climate change. These events are highly localized and erratic, making them difficult to predict with existing weather simulation models.
- Outdated Prediction Models:** Currently, most of the prediction software used in forecasting are based on the global forecasting system and weather research and forecasting models, both of which are not the most modern.
- Forecasting weather in the tropics** is more challenging than in areas that are farther from the equator, because of greater variability in weather phenomena.
- Predicting large-scale systems** like monsoons, cyclones, or heat waves is **easier due to their widespread nature**. However localized events like cloudbursts and sudden, unexpected weather phenomena are much harder to forecast accurately.
- Need for precision:** IMD currently has the ability to forecast weather events over a 12 km x 12 km area. This grid is larger than most Indian cities.
 - For hyper-local forecasts there is a need for **1 km x 1 km** forecast.

Way Ahead

- Predicting weather events with a high level of accuracy has become increasingly important in India, one of the most vulnerable nations to climate change.
- There is an urgent need for an **integrated system to fill the data gaps**. New ground stations will have to be installed and the available data have to be shared seamlessly.
- Also the focus should be on greater integration of **artificial intelligence and machine learning (AI/ML)** in weather forecasting to get more accurate results.

Indian Meteorological Department (IMD)

- IMD is an agency of the **Ministry of Earth Sciences**.
- It is the principal agency responsible for meteorological observations, weather forecasting and seismology.
- It is also one of the six Regional Specialized Meteorological Centres of the **World Meteorological Organisation (WMO)**.

Source: IE

U.P. DIGITAL MEDIA POLICY, 2024

Context

- The Uttar Pradesh government has come up with a **new social media policy** encouraging influencers to promote the State government's initiatives, schemes, and achievements with prize payments.

About the Policy

- **Objective:** The new social media policy reflects the government's bid to enhance its online presence while deterring undesirable content.

Key Highlights:

- The policy, created by the state's information department, **outlines a structure for providing advertisements to agencies and individuals** who create and share content about government schemes and achievements on platforms like X, Facebook, Instagram, and YouTube.
- Influencers will be categorized into **four groups** based on their number of followers and subscribers.
 - ♦ This categorization will determine their **eligibility for financial rewards**, which could reach up to Rs 8 lakh per month.

'Paid content'

Uttar Pradesh government plans to reward social media influencers who promote its initiatives, schemes, and achievements

Maximum monthly payment limits

■ X, Facebook, and Instagram: ₹5 lakh, ₹4 lakh, ₹3 lakh, ₹2 lakh — based on number of subscribers and duration of content

■ YouTube videos, shorts, and podcasts: ₹8 lakh, ₹7 lakh, ₹6 lakh, ₹4 lakh

■ The government has been authorised to take legal action if paid content shows any 'anti-national, anti-social, derogatory' references



- The policy also envisions the listing of **specific agencies or firms to handle advertisements**, aiming to promote content relating to the state's achievements and schemes.
- **Legal Action:** Under the policy the government has been authorised to take legal action if such paid content shows any anti-national, anti-social, or derogatory content.
 - ♦ **Anti-national content** would be considered a serious offence which carries a punishment of between three years to life imprisonment.
- **Concerns:** Digital influencers running social media platforms argue it signals the government's attempt to produce its favourable content and influence the public through the medium.
 - ♦ It has prompted debates about the extent to which it may impact freedom of expression and the operational definition of what constitutes 'objectionable' content.

Source: TH

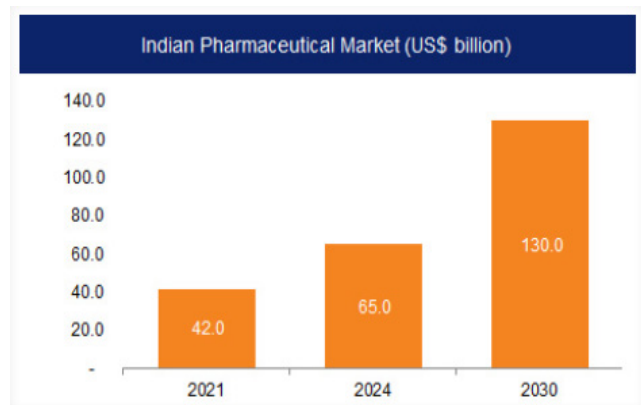
INDIA'S PHARMA SECTOR TO REACH \$130 BILLION BY 2030

Context

- Union Minister of State for Commerce and Industry, has stressed that the country's pharmaceutical sector will touch the 130 billion US dollar mark by 2030.

Pharmaceutical Sector of India

- The pharmaceutical industry in India is currently valued at **\$50 Bn.**
- **Major segments of industry** include generic drugs, OTC medicines, bulk drugs, vaccines, contract research & manufacturing, biosimilars and biologics.
- The Pharmaceutical industry in India is the **third largest** in the world in terms of volume and **14th largest** in terms of value.



- The Pharma sector currently contributes to around **1.72% of the country's GDP**.
- India is the **3rd largest producer of API** accounting for an **8% share** of the Global API Industry.

Achievements of Pharmaceutical Sector of India

- India accounts for **60% of global vaccine production**, contributing up to 70% of the WHO demand for **Diphtheria, Tetanus and Pertussis (DPT)** and **Bacillus Calmette–Guérin (BCG) vaccines**, and 90% of the WHO demand for the measles vaccine.
- India supplies over **50%** of Africa's requirement for generics, **~40%** of generic demand in the US and **~25%** of all medicine in the UK.
- **The cumulative FDI equity inflow** in the Drugs and Pharmaceuticals industry is **US\$ 22.52 billion** during the period 2000-2024, almost **3.4%** of the total inflow received across sectors.
- The nation is the **largest provider of generic medicines** globally, occupying a **20% share** in global supply by volume, and is the leading vaccine manufacturer globally.
 - ♦ India is known as the "**pharmacy of the world**" due to the low cost and high quality of its medicines.

Challenges for Pharmaceutical Sector of India

- **Intellectual Property (IP) Protection:** India's patent laws, especially concerning compulsory licensing and Section 3(d) of the Indian Patent Act, have led to frequent disputes with multinational corporations.
- **Dependence on Imports:** APIs and Key Starting Materials (KSMs) import dependence exposes the industry to vulnerabilities related to supply chain disruptions and price fluctuations.
- **Skilled Human Resource:** Indian pharmaceutical industry requires a highly skilled workforce to drive research and development, manage operations, and ensure quality control.
- **Failing the quality tests:** The country's pharma industry has largely been in denial over quality-related concerns expressed by national and international observers.
 - ♦ According to a **Central Drugs Standard Control Organization (CDSCO)** survey in **2014-2016**, about five per cent of Indian

drugs, several of them manufactured by large pharma companies, failed the quality test.

Government initiatives

- **The Production Linked Incentive (PLI) scheme** for pharmaceuticals is being implemented with a total outlay of the Rs. 15,000 crore (US\$ 2.04 billion) spanning from 2020-21 to 2028-29, to boost India's manufacturing capacity, elevate investment, and diversify product offerings in the sector.
- **Pradhan Mantri Bhartiya Janaushadhi Pariyojana (PMBJP):** quality generic medicines are made available at affordable prices to all through dedicated outlets known as Pradhan Mantri Bhartiya Janaushadhi Kendras (PMBJK).
- **Strengthening of Pharmaceutical Industry (SPI):** The scheme is implemented for the period from **FY 21-22 to FY 25-26**.
 - ♦ It aims to provide support to existing Pharma clusters and MSMEs across the country to improve their productivity, quality and sustainability to strengthen the existing infrastructure facilities in the Pharma MSME clusters.
- **Scheme for Promotion of Bulk Drug Parks:** The objective is to provide world class common infrastructure facilities to units located in the parks which will help in significantly bringing down the manufacturing cost of bulk drugs and thereby make India self-reliant.
- **100% Foreign Direct Investment (FDI)** in the pharmaceutical sector is allowed under the **automatic route for greenfield** pharmaceuticals.
 - ♦ 100% FDI in the pharmaceutical sector is allowed in brownfield pharmaceuticals; wherein 74% is allowed under the automatic route and thereafter through the government approval route.

Way Ahead

- The pharmaceutical industry in India is a significant part of the nation's foreign trade and offers lucrative potential for investors.
- Speedy introduction of generic drugs into the market has remained in focus and is expected to benefit the Indian pharmaceutical companies.
- In addition, the thrust on rural health programmes, lifesaving drugs and preventive vaccines also augurs well for the pharmaceutical companies.

Source: AIR

GOVERNMENT AGREES TO FURTHER DISCUSSIONS WITH TRADE UNIONS ON LABOUR CODES

Context

- Recently, the Union Labour Minister has agreed to hold further discussions on the implementation of the **four Labour Codes with the Central Trade Unions (CTUs)**.

About the Labor Codes in India

- India has a complex legal framework governing labour and employment. Over time, various laws related to labour rights, wages, social security, and industrial relations have been consolidated and amended.

Code on Wages, 2019

- It aims to simplify and rationalise wage-related laws. It consolidates four existing laws: the Payment of Wages Act, 1936; the Minimum Wages Act, 1948; the Payment of Bonus Act, 1965; and the Equal Remuneration Act, 1976.
- Some important provisions include the prohibition of gender-based discrimination, the fixation of minimum wages, and the establishment of a floor wage by the Central Government.

Minimum Wages Act, 1948

- It ensures that workers receive a minimum wage for their labour. It applies to both organised and unorganised sectors.
- It provides for the fixation of minimum wages by the appropriate government, taking into account factors like skill level, nature of work, and cost of living.
- It outlines the components of minimum wages, such as basic wages, dearness allowance, and other allowances.

Other Relevant Laws

- Apart from the Code on Wages and the Minimum Wages Act, there are several **other labour-related laws in India**, including the Industrial Disputes Act, 1947; the Factories Act, 1948; the Employees' Provident Funds and Miscellaneous Provisions Act, 1952; and the Employees' State Insurance Act, 1948.
- Each of these laws addresses specific aspects of labour rights, workplace safety, social security, and industrial relations.

Recent Reforms

- In recent years, the Indian government has undertaken significant labour reforms to improve

ease of doing business and enhance worker welfare. These reforms aim to balance the interests of employers and employees.

- The introduction of the **Code on Occupational Safety, Health, and Working Conditions (OSHC)** and the **Code on Industrial Relations (IR)** are part of this reform process.

Challenges and Debates

- While labour codes seek to simplify and consolidate laws, there are ongoing debates about their impact on workers' rights and job security.
- Balancing flexibility for employers with adequate protection for workers remains a challenge.
- Reduced Take-Home Pay for Employees:** The implementation of the new labour codes, particularly the wages code, has led to changes in how basic pay and provident fund contributions are calculated.
 - Under the new wages code, allowances are now capped at 50% of the gross pay, meaning that half of an employee's pay is considered basic wages. This alteration can result in reduced take-home pay for employees.
- Multiplicity of Labor Laws and Compliance Challenges:** India has historically had a complex web of labour laws, resulting in administrative inefficiencies and inconsistent enforcement. The multiplicity of laws makes compliance challenging for employers.
 - The new labour codes aim to rationalise and **consolidate 44 central labour laws into four codes**. However, ensuring smooth implementation across states remains a challenge due to the concurrent nature of labour as a subject under the Indian Constitution.
- Differing Priorities:** While the meeting's primary agenda was to discuss the recently announced **Employment Linked Incentive (ELI) schemes** in the Union Budget, the CTUs took the opportunity to submit a detailed memorandum to the Union Labour Minister.
- Transparency and Preparation:** Some trade unions expressed dissatisfaction that discussion points were not shared with them ahead of the meeting. However, the Minister assured them of his readiness for further discussions on the Labour Codes.

Trade Union Influence and Worker Rights

- The new industrial relations code recognizes gig workers and provides some flexibility for

employers in hiring and firing. However, it also reduces the influence of trade unions.

- Balancing the interests of employers, workers, and trade unions remains a delicate task, and ensuring worker rights while promoting ease of doing business is an ongoing challenge.

State-Level Implementation and Rule Notification

- Labour being a concurrent subject, both the central government and states need to notify rules under the new codes. However, several states have faced delays in finalising these rules.
- The central government aims to move forward with implementation, but alignment across states remains crucial for effective enforcement.

Conclusion and Way Forward

- The Centre's willingness to engage in dialogue with trade unions is a positive step toward addressing concerns and ensuring that the Labour Codes strike a balance between corporate interests and workers' rights.
 - ♦ As consensus-building continues, it remains crucial to consider all perspectives and create policies that benefit the entire workforce
- India's labour codes are a critical aspect of the country's socio-economic landscape. They play a crucial role in shaping the rights and working conditions of millions of workers across various sectors.

Source: TH

SMART CITIES UNDER THE NATIONAL INDUSTRIAL CORRIDOR DEVELOPMENT PROGRAMME

Context

- Government has approved **12 new industrial smart cities** under the **National Industrial Corridor Development Programme (NICDP)**.

About the New Industrial Smart Cities Project

- The projects span across **ten states** and are strategically planned along **six major corridors**.
 - ♦ These are Khurpia in Uttarakhand, Gaya in Bihar, Rajpura-Patiala in Punjab, Zaheerabad in Telangana, Dighi in Maharashtra, Orvakal and Koppaathy in Andhra Pradesh, Palakkad in Kerala, Jodhpur-Pali in Rajasthan, and Agra and Prayagraj in Uttar Pradesh.

Key Highlights:

- **Strategic Investments:** NICDP is designed to foster a vibrant industrial ecosystem by facilitating investments from both large anchor industries and Micro, Small, and Medium Enterprises (MSMEs).
 - ♦ These industrial nodes will act as catalysts for achieving \$2 trillion in exports by 2030, reflecting the government's vision of a self-reliant and globally competitive India.
- **Smart Cities and Modern Infrastructure:** The new industrial cities will be developed as greenfield smart cities of global standards, built "ahead of demand" on the 'plug-n-play' and 'walk-to-work' concepts.
 - ♦ This approach ensures that the cities are equipped with advanced infrastructure that supports sustainable and efficient industrial operations.
- **Area Approach on PM GatiShakti:** Aligned with the PM GatiShakti National Master Plan, the projects will feature multi-modal connectivity infrastructure, ensuring seamless movement of people, goods, and services.
 - ♦ The industrial cities are envisioned to be growth centers for transformation of the whole region.

Significance

- By positioning India as a **strong player in the Global Value Chains (GVC)**, the NICDP will provide developed land parcels **ready for immediate allotment**, making it easier for domestic and international investors to **set up manufacturing units in India**.
- These projects are designed to **attract substantial investments**, with expectations of approximately Rs 1.52 trillion from both large anchor industries and MSMEs (micro, small and medium enterprises).
- **Economic Impact and Employment Generation:** This initiative is projected to generate 1 million direct and 3 million indirect jobs.
- **Commitment to Sustainable Development:** By providing quality, reliable, and sustainable infrastructure, the government aims to create industrial cities that are not just hubs of economic activity but also models of environmental stewardship.

National Industrial Corridor Development Programme

- It is India's most ambitious infrastructure programme aiming to develop new industrial cities as "Smart Cities" and converging next generation technologies across infrastructure sectors.
- These are aimed at development of futuristic industrial cities in India which can compete with the **best manufacturing and investment destinations** in the world.
- The same will create **employment opportunities** and economic growth leading to overall **socio-economic development**.
- **32 Projects in 4 Phases under 11 Corridors** forming part of National Infrastructure Pipeline

Conclusion

- The approval of 12 new industrial nodes under the NICDP marks a significant milestone in India's journey towards becoming a global manufacturing powerhouse.
- In addition to these new sanctions, the NICDP has already seen the completion of four projects, with another four currently under implementation.
- This continued progress highlights the government's commitment to transforming India's industrial sector and fostering a vibrant, sustainable, and inclusive economic environment.

Source: IE

ORDER FOR SIG 716 RIFLES: MODERNIZATION EFFORT OF THE INDIAN ARMY

In News

- The Ministry of Defence signed a repeat order for 73,000 SIG716 rifles from Sig Sauer, with deliveries expected by the end of 2025.

Background

- The Army previously procured 72,400 SIG-716 rifles through a ₹700 crore contract in February 2019.
- In September 2020, the Defence Acquisition Council approved a second batch of 72,400 SIG-716 rifles, though the deal faced delays before being revived.
- The Army initially planned to complement the SIG716 with Russian AK-203 rifles, but delays led to a repeat order for SIG716 rifles.

- The Indian Army aims to replace the INSAS rifles with a modern alternative, and SIG716 rifles were preferred due to their performance.

Modernisation of Defence Armed Forces

- It involves the acquisition of platforms, technologies and weapon systems to upgrade and augment Defence capabilities and is a continuous process based on threat perception, operational necessities and technological changes to keep the Armed Forces in a state of readiness to meet the entire spectrum of security challenges.

Need and Objectives

- The shift towards technology absorption responds to evolving global warfare trends and regional threats, particularly from China and Pakistan
- Addressing hybrid militancy in Kashmir and adapting to new forms of conflict.

Planning Process

- Equipment needs are planned through the Ten Years Integrated Capability Development Plan (ICDP), Five Years Defence Capability Acquisition Plan (DCAP), Annual Acquisition Plan (AAP), and discussions by the Defence Acquisition Council.

Initiatives and Focus

- **Technology Adoption:** Emphasis on unmanned aerial vehicles, anti-drone systems, and advanced surveillance technologies, with a focus on cybersecurity.
 - ♦ The Indian Army (IA) is prioritizing technological absorption in 2024, building on last year's transformation commitment.
- **Key Upgrades:** Integration of drones and counter-drone systems, establishment of Command Cyber Operations Support Wings (CCOSWs), and reorientation of artillery.
- **Human Resource Expansion:** Introduction of Agniveer recruits and creation of specialist officers in the Territorial Army, including cyber experts.
- **Communication Enhancement:** Induction of 2,500 Secure Army Mobile Bharat Version (SAMBHAV) handsets, with a goal of 35,000 for secure communication.
- **DRDO Initiatives:** DRDO has set up 5 Young Scientist Laboratories (DYSLs) to advance technology in AI, quantum technologies, cognitive technologies, asymmetric technologies, and smart materials.

- **Industry Involvement:** In March 2022, 18 major defence platforms were announced for industry-led design and development
- **iDEX Scheme:** The Innovations for Defence Excellence (iDEX) scheme has been launched to involve start-ups and MSMEs in defence innovations.
- **SRIJAN Portal:** The SRIJAN portal facilitates indigenisation efforts by Indian industry and MSMEs.
- **For FY 2024-25, the Ministry of Defence (MoD) received the highest allocation among ministries** at Rs 6,21,940.85 crore (approx. US \$75 billion).
- **Additional Funding:** An extra Rs 400 crore has been allocated for innovation in defence through the Acing Development of Innovative Technologies with iDEX (ADITI) scheme.
 - ♦ The ADITI scheme aims to engage start-ups, MSMEs, and innovators to develop and supply innovative, indigenous defence technologies.

Conclusion and Future outlook

- Technology integration is seen as a gradual process requiring sustained effort and adaptation within the army's operational framework.
- Initiatives like Innovations for Defence Excellence (iDex) highlight collaboration with academia and industry, but systematic and long-term frameworks are needed.
- The army's doctrine needs to evolve with technological advancements and changing warfare dynamics, incorporating lessons from recent global conflicts.
- Balancing tradition with innovation is critical for successful technological absorption, requiring careful management of integration complexities and alignment with national security needs

Source: TH

NEWS IN SHORT

AXIS OF RESISTANCE

Context

- The Axis of Resistance was in the news after the assassination of Hamas political leader Ismail Haniyeh and Hezbollah commander Fuad Shukr.

Axis of Resistance

- It is a **coalition of Iranian-backed groups** describing themselves as the "Axis of Resistance"

to Israel and U.S. influence in the Middle East.

- **The Palestinian Islamic Jihad (PIJ), Hezbollah, Hamas, and the Houthis** are some of the major groups in the alliance.

How was the coalition formed?

- The roots of the 'axis of resistance' go back to the **Iranian Revolution of 1979**, which paved the way for radical Shia Muslim clerics to come to power.
- To expand its political and military influence in a region where most powers (such as US-ally Saudi Arabia) are Sunni-majority nations, Iran's new regime began to support non-state actors.
- Another reason for this was to deter threats from Israel and the US as Iran has seen Israel's creation in **1948** as a means for the US (and the West) to influence the region for its strategic interests.

Source: IE

INDIA AND RUSSIA WORKING PLAN TO HANDLE EMERGENCIES

In News

- Second meeting of the Joint Russian-Indian Commission on Emergency Management held in Moscow.

Working plan of the Joint Russian-Indian Commission

- India and Russia signed the working plan of the Joint Russian-Indian Commission on the Cooperation in the Field of Emergency Management for 2025-2026 .
- The meeting is significant to draw a strategy for executing the previous agreements between India and Russia, such as, **Inter-Governmental Agreement (IGA) for cooperation** in the field of Emergency Management in December, 2010 and Regulation to establish the **Indo-Russian Joint Commission for Cooperation (2013)** in prevention and elimination of consequences of emergency situations.
- Both the countries agreed to exchange best practices in the field of Disaster Management.
- **Discussion Points:** Space monitoring technologies for risk forecasting and emergency response.
 - ♦ Exchange of experiences in responding to large-scale disasters.
 - ♦ Cooperation in training fire and rescue specialists.

- **Objectives:** Enhance early warning systems.
 - ♦ Build mutual capacity in emergency preparedness and response.
 - ♦ Align with the Sendai Framework and India's disaster risk reduction agenda
- **Future Actions:** Intensify joint efforts in emergency management.
 - ♦ Exchange best practices in disaster management and training.
 - ♦ Extend cooperation between educational and research institutions.
 - ♦ Next meeting will be held in India in 2026.

Source : TH

44TH PRAGATI INTERACTION

In News

- Prime Minister Modi chaired the 44th PRAGATI meeting, focusing on project reviews and governance.

Projects Reviewed:

- Seven significant projects were discussed, including road, rail, coal, power, and water resources, totaling over Rs. 76,500 crore.
 - ♦ Projects affect 11 States and UTs: Uttar Pradesh, Uttarakhand, Jharkhand, Maharashtra, Rajasthan, Gujarat, Odisha, Goa, Karnataka, Chhattisgarh, and Delhi.

PRAGATI

- It is the ICT-based multi-modal platform for Pro-Active Governance and Timely Implementation.
- It is a multi-purpose platform for addressing grievances and monitoring government projects.
- It is a three-tier system (PMO, Union Government Secretaries, and Chief Secretaries of the States);
- **Purpose:** Aims to enhance governance efficiency and responsiveness, integrating Digital data management, video-conferencing, and geo-spatial technology

Source : PIB

UPI BLOCK MECHANISM FACILITY FOR SECONDARY MARKET TRADING

Context

- Recently, **Securities and Exchange Board of India (SEBI)** proposed mandatory **Unified Payments Interface (UPI)** block mechanism facility for secondary market trading.

What's the UPI Block Mechanism?

- The UPI block mechanism is akin to the **Application Supported by Blocked Amount (ASBA)** facility that allows trading with blocked amounts.
- In the primary market, it ensures that an investor's money moves only when the allotment is completed.
- Now, SEBI wants to extend this concept to the secondary market.
- SEBI is also exploring an alternative: a **"3-in-1 trading account facility"**. This could **potentially replace the mandatory ASBA-like facility**.
- It combines a savings bank account, a demat account (for holding securities), and a trading account.

Why the UPI Block Mechanism?

- By integrating UPI with the secondary markets, clients can block funds in their bank accounts specifically for trading in the secondary market.
- Instead of transferring these funds upfront to the trading member, they remain securely blocked until needed.
- It enhances the protection of cash collateral.

Who are these Qualified Stock Brokers (QSBs)?

- QSBs are trading members who meet certain criteria which include factors like the size and scale of their operations, the number of active clients, total assets held by clients, end-of-day margin, and trading volume.
- Being designated as a QSB comes with enhanced responsibilities and obligations.

About SEBI

- It was **constituted as a non-statutory body** through a resolution of the Government of India, and established **as a statutory body in the year 1992** and the provisions of the **Securities and Exchange Board of India Act, 1992**.

Functions

- To protect the interests of investors in securities and to promote the development of, and to regulate the securities market and for matters connected therewith or incidental thereto.

Unified Payments Interface (UPI)

- It is a system that powers multiple bank accounts into a single mobile application (of any participating bank), merging several banking features, seamless fund routing & merchant payments into one hood.

- It was developed by **National Payments Corporation of India (NPCI)** in 2016.
- **Participants in UPI:** Payer Payment Service Provider (PSP), Payee PSP, Remitter Bank, Beneficiary Bank, NPCI, Bank Account holders, and Merchants.

Source: BL

GREEN SHOOTS

Context

- Auto markets will see **green shoots** by October as per the Maruti Suzuki.

About

- “Green Shoots” is a term generally applied to **signs of recovery** from an economic recession.
- The phrase derives from the **green shoots seen in plants** that signify health and growth.
- The term was first used by **UK chancellor Norman Lamont** to refer to economic growth during the economic downturn in the United Kingdom in 1991.

Source: TH

EXPANSION OF ‘AGRICULTURE INFRASTRUCTURE FUND’

Context

- Recently, the Union Cabinet expanded the scope of the Agricultural Infrastructure Fund (AIF).

About the Agricultural Infrastructure Fund (AIF)

- It was **launched in 2020** with the **primary objective** of strengthening **post-harvest infrastructure**—a critical link in the agricultural supply chain.
- It focuses on creating essential facilities that enhance productivity, sustainability, and overall efficiency in the agricultural sector.

Key Features of AIF

- **Credit Scheme at Subsidised Interest Rate:** Under this scheme, eligible beneficiaries can access funds for creating various infrastructure assets related to farming.
 - ♦ These assets include warehouses, cold storage facilities, and more.
- **Expanding Eligibility:** The recent expansion of the AIF allows all eligible beneficiaries to

participate in creating infrastructure assets covered under ‘**viable projects for building community farming assets**’.

- ♦ It aims to enhance community farming capabilities and improve overall productivity in the sector.
- **Integrated Primary-Secondary Processing Projects:** The AIF now permits credit for ‘integrated primary-secondary processing projects’. However, standalone secondary projects are not eligible for AIF credit.
- **Convergence of PM-KUSUM with AIF:** It aims to further support farmers, farmer producer organisations (FPOs), and cooperatives.
- **Credit Guarantee Options:** In addition to the Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE), the AIF now extends credit guarantee coverage to FPOs through the NABSanrakshan Trustee Company.
 - ♦ It enhances financial security and encourages investments in agricultural infrastructure projects.

Impact and Achievements

- Since its inception, the AIF has been instrumental in supporting the creation of 6,623 warehouses, 688 cold storage facilities, and 21 silos across the country.
- These projects have resulted in an additional storage capacity of about 500 lakh tonnes (lt), including 465 lt of dry storage and 35 lt of cold storage.
- Its increased storage capacity can save approximately 18.6 lt of food grains and 3.44 lt of horticulture produce annually.

Investment and Mobilisation

- A total of ₹47,575 crore has been sanctioned for 74,508 projects under the AIF.
- These sanctioned projects have mobilised an impressive investment of ₹78,596 crore in the agriculture sector, with a significant contribution from private entities.

Source: TH

ISRO DESIGNED HUMANOID SKULL

Context

- Recently Indian Space Research Organisation (ISRO) has designed the skull of the female half humanoid, **Vyomitra**.

Background

- The Indian Space Research Organisation's (ISRO's) uncrewed Gaganyaan mission in 2025 will carry the Vyomitra.
- **The Gaganyaan project** will launch a crew of 3 members to an orbit of 400 km for a 3-day mission and bring them back safely to earth, by landing in seawater.

What are humanoids?

- Humanoids are **robotic systems designed to resemble humans** and function autonomously in space.
- Robotic systems are used to **assist astronauts in performing repetitive and/or dangerous tasks in space**, like cleaning of solar panels or fixing faulty equipment located outside the spacecraft.

Design of the humanoid skull

- It has been made using an **aluminum alloy (AlSi10Mg)** known for its high flexibility, light weight, heat resistance, and mechanical properties.
 - ♦ It weighs **800 grams** and measures **200mm x 220 mm**.
- Vyommitra will resemble the upper body of a human and will include movable arms, a face, and a neck.

Source: IE

SOLAR PARABOLOID TECHNOLOGY

Context

- As the world grapples with the urgent need to transition to renewable energy, **solar paraboloid technology** is emerging as a potentially transformative solution.

Solar Paraboloid Technology

- Solar paraboloids operate using a **Parabolic Trough Collector (PTC) system**.
 - ♦ These systems consist of long, parabolic mirrors that focus sunlight onto a receiver tube placed at the focal line of the mirror.
- The concentrated solar energy heats a fluid within the receiver, which can then be used to generate

electricity or provide direct heat for industrial processes.

- This design offers several **advantages over traditional PV panels**, which convert sunlight directly into electricity using semiconductors.
- **Benefits:** One of the key benefits of solar paraboloid technology is its ability to operate at higher temperatures, up to 300°C, which significantly increases **thermal efficiency**.
 - ♦ Solar paraboloids are highly efficient in concentrating solar energy, which means that more electricity can be generated from the same amount of sunlight.
 - ♦ This efficiency could lead to **lower costs per unit** of electricity produced, making solar energy more competitive with traditional fossil fuels.
- **Challenges:** The technology requires precise construction, specialized materials, and complex tracking systems, all of which contribute to higher upfront costs.

Source: ET

BLUE ORIGIN

Context

- Jeff Bezos' aerospace venture **Blue Origin** is set to launch its eighth tourist mission to suborbital space using the **New Shepard rocket**.

About

- The flight will carry six people for an 11-minute ride above the **Karman line** (the internationally recognised boundary of space), marking another key milestone for **Blue Origin**, which has already taken 37 people into space.
- Additionally, Blue Origin is also cooperating with NASA on the **ESCAPADE** (Escape and Plasma Acceleration and Dynamics Explorers) mission, which will investigate the interaction of **solar wind and Mars' magnetosphere**. This mission will launch on Blue Origin's reusable **New Glenn rocket** in October 2024.

Source: AIR

