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DAILY CURRENT AFFAIRS (DCA)

Time: 45 Min

Date: 31-12-2025

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INDIA'S 2025 ECONOMIC REFORMS

Context

- *Economic reforms in 2025 reflect a maturing phase of India's governance, where the emphasis shifted decisively from "expanding regulatory frameworks" to "delivering measurable outcomes".*

Key Reforms Shaping Growth and Opportunity

Income Tax Reforms

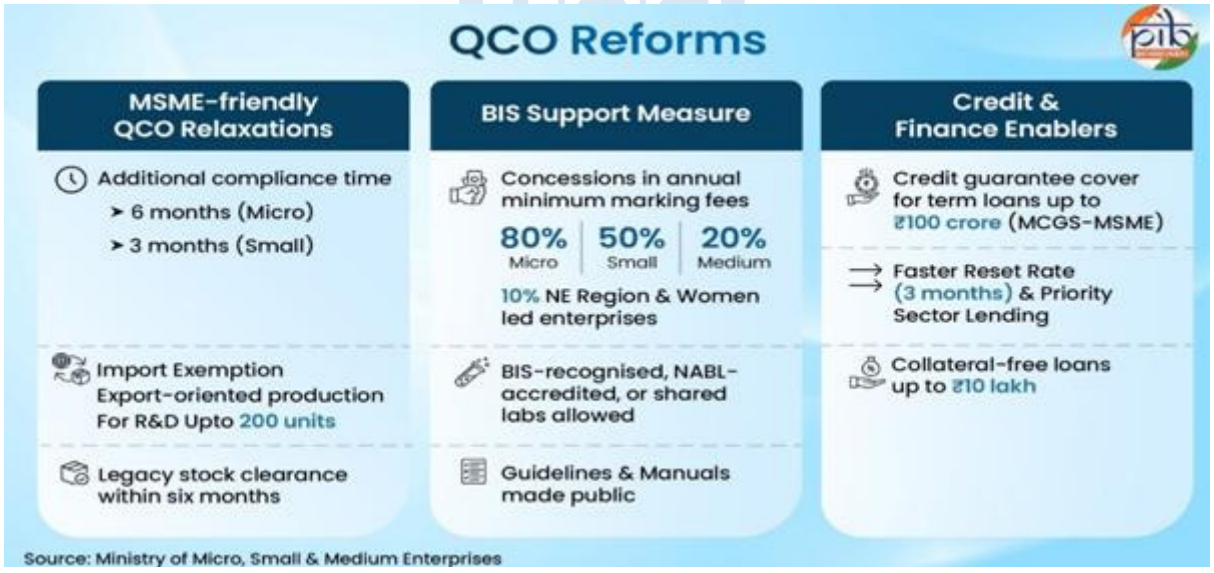
- *The Union Budget 2025-26* **exempted the annual incomes up to ₹12 lakh** *from income tax under the new regime, with the effective exemption rising to ₹12.75 lakh for salaried taxpayers on account of the standard deduction.*
- *The Government announced a comprehensive overhaul of the Income-tax Act, 1961, resulting in the* **New Income Tax Act, 2025.**
- **The Act strengthens** *digital-first enforcement, faceless tax administration, consolidates compliance provisions such as Tax Deducted at Source (TDS) under a single section etc.*

Rural Employment Reforms

- *Rural employment reforms anchored in the enactment of the* **Viksit Bharat - Guarantee for Rozgar and Ajeevika Mission (Gramin) Act, 2025,** *replacing the* **Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA).**
  - **Extended Employment Guarantee: 125 days** *of wage employment per rural household in a financial year.*
  - **Strengthened Administrative Capacity:** *The administrative expenditure ceiling has been increased from* **6% to 9%**, *strengthening staffing, training, technical capacity, and field-level support to improve institutional delivery and outcomes.*

Ease of Doing Business Reforms

- *To ensure that Quality Control Orders (QCOs) do not disrupt domestic production, the Government has implemented them in a phased and MSME-friendly manner through the Bureau of Indian Standards (BIS).*



GST 2.0 Reforms

- **Simpler Tax Structure:** *The move to a* **two-slab GST regime (5% and 18%)** *reduces complexity, classification disputes, and compliance costs.*
- **MSME and Startup Enablement:** *Faster refunds, simplified registration and returns, and lower input costs aim is to boost the present businesses and startups and incentivise the youth to enter into businesses and initiate startups.*
- **Wider Tax Base and Revenue Stability:** *Simpler rates and improved compliance have expanded the GST taxpayer base to over 1.5 crore, while gross collections reached* **₹22.08 lakh crore in FY 2024–25**, *reinforcing fiscal sustainability.*

Labour Reforms

- *The Government of India consolidated* **29 existing labour laws into four Labour Codes**;
  - *The Code on Wages, 2019,*
  - *the Industrial Relations Code, 2020,*
  - *the Code on Social Security, 2020 and*
  - *the Occupational Safety, Health and Working Conditions Code, 2020.*

Export Promotion mission

- **Announced in the Union Budget 2025–26,** *EPM marks a strategic shift from fragmented export support schemes to a single, outcome-based and digitally driven framework, aimed at empowering MSMEs, first-time exporters, and labour-intensive sectors.*

Source: Ministry Of Commerce & Industry

Challenges Ahead

- **Digital Divide:** *Digital-first governance in taxation, trade, and welfare delivery risks* **exclusion of smaller firms** *and workers lacking digital literacy or infrastructure.*
- **Global Economic Uncertainty:** *Sluggish global demand, geopolitical tensions, and supply-chain disruptions could limit export growth despite domestic reform momentum.*
- **MSME Compliance Burden:** *Despite simplification, smaller enterprises still struggle with digital compliance, quality standards, and access to affordable credit, particularly in semi-urban and rural areas.*
- **Centre–State Coordination:** *Reforms such as GST 2.0, labour codes, and rural employment require strong fiscal and administrative coordination, which continues to face operational frictions.*

Way Ahead

- *The reforms reflect a* **shift towards outcome-based governance,** *reducing friction for citizens and businesses, enhancing transparency, and laying the foundation for sustained, inclusive growth.*
- *The measures collectively* **foster trust, resilience, and global competitiveness** *in India's economy.*

Source: PIB

ABHINAV BINDRA-LED PANEL FLAGS SYSTEMIC GAPS IN INDIAN SPORTS GOVERNANCE

Context

- *Recently, a government-empowered* **task force led by Olympic gold medallist Abhinav Bindra** *has revealed* **serious systemic weaknesses and structural deficiencies** *within India's sports governance framework.*

Task Force Mandate and Ambition

- *The government established the* **Task Force on Capacity Building of Sports Administrators** *on* **July 30 of the previous year**, *under Bindra's chairmanship.*
- *Its* **primary mandate** *was to develop a* **sustainable, professional, and future-ready governance system** *capable of positioning India among the* **world's top-10 sporting nations** *and as a* **credible contender for hosting the 2036 Olympic Games**.

Key Findings: A System Under Strain

- **Systemic Deficiencies in Key Sports Institutions: India's major sports institutions**, *including the* **Sports Authority of India (SAI)** *and* **state sports departments**, *suffer from chronic understaffing, poor inter-agency coordination, and excessive reliance on* **generalist civil servants** *or* **short-term contractual employees** *lacking domain expertise.*
  - *These shortcomings* **impede the effective implementation of national sports policies**, *weaken coordination with federations, and undermine India's capacity to build a* **modern, athlete-centric ecosystem**.
- **Absence of Professional Sports Administration Framework:** *India is* **lacking a national institute**

or structured framework *for sports administration and governance.*

- *It leaves sports administrators without* **defined career pathways, competency standards, or continuous professional development opportunities**.
- *India's sports governance* **model remains ad hoc**, *with* **weak institutional memory and minimal long-term professionalisation**.

- **Findings on Institutional Shortcomings:** *The report points to* **systemic deficits across the entire sports ecosystem**, *including the Ministry of Youth Affairs and Sports; Sports Authority of India (SAI); Indian Olympic Association (IOA); National Sports Federations (NSFs); and State sports departments.*
  - *Each of these bodies, according to the report, suffers from* **critical shortcomings in human resource planning, deployment, and institutional capacity**, *undermining overall effectiveness and efficiency.*

Proposed Institutional Reforms

- **National Council for Sports Education and Capacity Building (NCSECB):** *The task force proposes setting up the* **NCSECB** *under the Sports Ministry to:*
  - **Regulate, accredit, and certify** *sports administration training programs.*
  - *Develop* **India-specific curricula** *tailored to national needs.*
  - *Promote* **dual career pathways** *for athletes transitioning into governance or management roles.*
- **Integration with Civil Services Training:** *The report recommends integrating* **sports administration education** *into* **IAS and state cadre programs**, *ensuring bureaucrats managing sports have domain-specific grounding to bridge the expertise gap.*

Key Recommendations: (13-point agenda)
- Establishment of the National Council for Sports Education & Capacity Building (NCSECB) as an autonomous statutory body affiliated to MYAS to regulate, accredit, certify, and globally benchmark all training in sports administration.
- Creating a National Training & Development Cell (NTDC) as the operational arm of NCSECB, responsible for curriculum delivery, coordination with partner institutions, and monitoring outcomes.
- India-specific curriculum development
- Competency & Curriculum framework
- Capability Maturity framework
- Athlete pathways
- Civil Service integration
- Global exposure and partnerships
- Networked delivery model
- Introduce mandatory certification and credit-linked progression
- Establishing a UAID-linked performance monitoring system
- NSF governance reforms
- Practice pathways.

- **Global Exposure and Collaboration:** *The task force urges partnerships with international sports bodies and universities to offer* **global training opportunities** *for Indian administrators.*
- **Other recommendations include:**
  - *Establishing a* **national institute for sports administration and management;**
  - *Creating* **standardised competency benchmarks** *for administrators;*
  - *Implementing* **long-term career progression frameworks;**
  - *Enhancing* **coordination mechanisms** *between central, state, and federation-level bodies;*

Government's Commitment to Reform

- *Commenting on the findings,* **the Sports Ministry** *affirmed the government's resolve to implement the recommendations alongside the upcoming* **National Sports Governance Act**.
- *It plans to operationalise the roadmap as part of* **India's long-term preparation for the 2036 Games**.

Source: ToI

MINISTRY TELLS SOCIAL MEDIA PLATFORMS TO BLOCK OBSCENE CONTENT

Context

- *The government has issued a* **fresh advisory to social media platforms** *to be stricter in* **taking down obscene, vulgar, pornographic** *and other illegal content from their platforms.*

About

- **Reason:** *The Ministry of Electronics and Information Technology (MeitY) has repeatedly received complaints that certain content circulating online does not comply with laws on decency and obscenity.*
  - *Under the IT Rules, 2021, platforms are required to make "reasonable efforts" to ensure that users do not upload or share content that is obscene, pornographic or illegal.*
- **Advisory:**
  - *MeitY asked platforms to ensure that users have* **easy access to reporting and grievance redressal systems.**
  - **Large social media platforms,** *in particular, have been told to use automated and*

technology-based tools to proactively prevent such content from spreading and to ensure faster takedowns.

- **24-hour Takedown Rule:** *Platforms must remove or disable access to material that is "prima facie" sexual in nature, including impersonation, within 24 hours of receiving a complaint.*

- **Non-compliance with the provisions** *of the IT Act and/or the IT Rules, 2021 may result in consequences, including prosecution under the IT Act, BNS, and other applicable criminal laws, against the intermediaries, platforms and their users,*

Digital content censorship

- *Digital content censorship refers to the* **control of online content by governments, organizations, or other entities.** *This includes:*
  - *blocking websites and apps;*
  - *removal of social media content;*
  - *regulation of OTT (Over-The-Top) streaming platforms;*
  - *restrictions on digital news and journalism.*

Need for the Censorship

- **Curbing Misinformation and Fake News:** *Prevents rapid spread of rumours that can trigger mob violence, panic, and public disorder.*
- **Controlling Hate Speech and Communal Content:** *Essential to stop content that fuels communal tensions, incites violence, or threatens social harmony.*
- **Safeguarding Children and Vulnerable Groups:** *Restricts access to harmful, explicit, violent, or manipulative content that can exploit minors.*
- **Loopholes in Platform Accountability:** *Social media platforms delay content moderation, lack transparency, and often evade responsibility due to weak enforcement mechanisms.*
- **Preventing Cybercrimes:** *Blocks websites and content related to child pornography, trafficking, drug markets, or illegal financial activities.*
- **Addressing AI Threats and Deepfakes:** *Necessary to regulate AI-generated fake videos/ photos that can damage reputations, distort democratic processes, and mislead citizens.*

Legal Framework Governing Digital Censorship in India

- **Right to Freedom of Speech (Article 19(1)(a)):** *Subject to reasonable restrictions under Article 19(2) concerning decency, morality, and public order.*
- **Information Technology (IT) Act, 2000***: Section 69A grants the government power to block online content for security or public order concerns.*
- **Intermediary Guidelines & Digital Media Ethics Code, 2021:** *Regulates social media, OTT platforms, and digital news media.*
- **Self-Regulation by OTT Platforms:** *Platforms like Netflix and Amazon Prime follow self-regulatory frameworks such as the Digital Publishers Content Grievances Council (DPCGC).*
- **The Central Board of Film Certification ("CBFC")**, *which was established by the Cinematographic Act, of 1952, is responsible for censoring movies in India.*

Challenges in Digital Censorship in India

- **Balancing Freedom of Speech & Regulation***: Over-regulation can suppress creativity, while under-regulation can spread harmful content.*
- **Transparency & Accountability:** *Content moderation and censorship decisions often lack clear guidelines, raising concerns about misuse.*
- **Jurisdictional Issues:** *Many digital platforms operate from outside India, making enforcement difficult.*
- **Technological Advancements:** *The rapid evolution of digital media complicates consistent and fair regulation.*
- **Ethical Concerns:** *The subjective nature of obscenity laws can lead to arbitrary censorship.*

Way Forward

- **Enhancing Transparency in Content Moderation***: Digital platforms should publish periodic transparency reports on content takedowns.*
- **Encouraging Digital Literacy:** *Educating citizens to identify fake news rather than enforcing restrictive censorship.*
- **Public Consultation in Policymaking***: Involving journalists, legal experts, and civil society in framing digital content regulations.*

Source: TH

100 YEARS OF QUANTUM MECHANICS

Context

- **2025** *has been declared the International Year of Quantum Science and Technology by UNESCO,*

marking 100 years since the formal development of quantum mechanics in 1925.

- *The milestone commemorates the* **Helgoland breakthrough** *by* **Werner Heisenberg,** *which laid the foundations of modern quantum theory.*

What is Quantum Mechanics?

- *Quantum mechanics is the branch of physics that explains the* **behaviour of matter and energy at atomic and subatomic scales.**
- *It departs from classical Newtonian physics and is based on principles such as* **quantisation of energy, wave–particle duality, uncertainty, and superposition.**
  - *It explains how extremely small objects simultaneously have the* **characteristics of both particles** *(tiny pieces of matter) and* **waves** *(a disturbance or variation that transfers energy).*
- **Domains of quantum technologies:**
  - **Quantum communication:** *It applies the properties of quantum physics to provide better security and improved long-distance communications.*
  - **Quantum simulation:** *It refers to the use of a quantum system to simulate the behavior of another quantum system.*
  - **Quantum computation:** *It is a field of computing that utilizes the principles of quantum mechanics to perform certain types of calculations more efficiently than classical computers.*
  - **Quantum sensing and metrology:** *It leverages the principles of quantum mechanics to achieve highly precise measurements.*

Evolution of Quantum Theory

- **1900: Max Planck** *proposed that* **energy is emitted in discrete packets** *called* **quanta** *while explaining black-body radiation.*
- **1905: Albert Einstein** *used the quantum idea to explain the photoelectric effect, establishing light as consisting of photons.*
- **1913: Niels Bohr** *applied quantum ideas to explain the structure of the hydrogen atom.*
- **1925: Werner Heisenberg**, *during his stay at Helgoland, formulated matrix mechanics, the* **first complete framework of quantum mechanics.**
- **1925–26: Max Born and Pascual Jordan** *provided the* **mathematical foundation** *using matrix algebra.*
- **1926: Erwin Schrödinger** *developed the wave equation, offering an alternative but equivalent formulation.*
- **1927: Paul Dirac** *unified quantum mechanics and relativity principles, describing it as a complete theory of dynamics.*

Indian Contributions to Quantum Theory

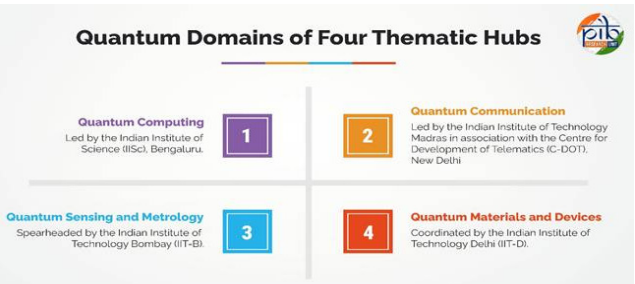
- **Satyendra Nath Bose:** *His work led to the prediction of* **Bose–Einstein Condensate**, *experimentally confirmed decades later.*
- **C V Raman:** *His discovery of the* **Raman Effect (1928)** *provided direct experimental proof of quantum interactions between light and matter, earning India its first Nobel Prize in science (1930).*

Application of Quantum Technology

- **Electronics and Computing:** *Enabled semiconductors, transistors, integrated circuits, and modern computers.*
- **Communication and Navigation:** *Basis of lasers, optical fibre communication, atomic clocks, and GPS systems.*
- **Healthcare and Medicine:** *Applications in MRI scanners, nuclear imaging, radiation therapy, and advanced diagnostics.*
- **Energy and Materials:** *Supports nuclear power generation and development of advanced materials and sensors.*
- **Emerging Technologies:** *Foundation for quantum computing, quantum communication, precision sensing, and ultra-secure data transmission.*

National Quantum Mission (NQM)

- *The government approved the NQM in* **2023** *from* **2023-24 to 2030-31.**
- **Aim:** *To seed, nurture and scale up* **scientific and industrial R&D** *and create a vibrant & innovative ecosystem in Quantum Technology (QT).*
- *The Mission objectives include developing intermediate-scale* **quantum computers with 50-1000 physical qubits in 8 years** *in various platforms like superconducting and photonic technology.*
- **Implementation:** *Setting up of* **four Thematic Hubs (T-Hubs)** *in top academic and National R&D institutes.*



Challenges of Quantum Technology

- **Decoherence:** *Quantum states are highly sensitive to environmental interactions, leading to loss of coherence and system instability.*
- **Quantum Measurement and Control:** *Precise measurement and manipulation at the quantum level are difficult due to noise, disturbances, and the fragile nature of quantum states.*
- **Scalability and Error Correction:** *Expanding quantum systems for practical use requires complex error-correction mechanisms and large numbers of qubits.*
- **Cost and Accessibility:** *Quantum technologies are expensive and resource-intensive.*

Way Ahead

- **Strengthening Research:** *Ensure sustained public funding for fundamental research in quantum physics to bridge gaps between theory and application.*
- **Capacity Building:** *Develop skilled human resources through specialised courses, interdisciplinary programmes, and global research collaboration.*
- **Public–Private Partnerships:** *Encourage start-ups and industry participation for scaling prototypes into commercially viable products.*

Source: IE

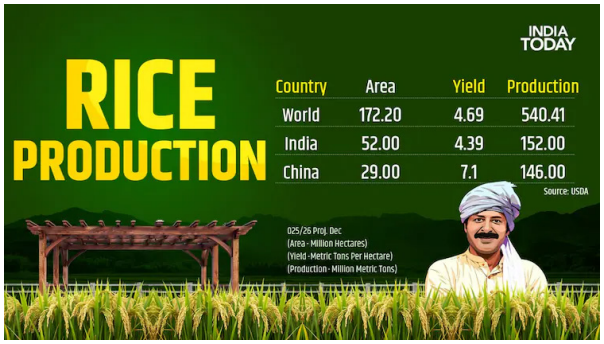
INDIA'S DOMINATION OF GLOBAL RICE TRADE STOKES LOOMING WATER CRISIS

Context

- *India is the* **world's largest rice exporter** *despite being a* **highly water-stressed country** *which represents a policy paradox.*

About

- **India overtook China as the world's largest rice produce***r and now accounts for* **~40% of global rice exports.**
  - *Rice exports crossed 20 million metric tonnes in the latest fiscal year.*



- *India exports rice to* **179 other countries.**
  - *A major chunk of basmati exports go to* **West Asia***, with the likes of Saudi Arabia, Iraq, Iran and the United Arab Emirates being bigger markets than the US.*

Concerns with India's Rice Export

- **Groundwater Depletion:** *Rice cultivation is highly water-intensive, unsuited to Punjab–Haryana's agro-ecology.*
  - *Aquifers are classified as over-exploited and weak monsoon years worsen recharge stress.*
  - *Groundwater levels have fallen from ~30 feet to 80–200 feet in a decade.*
  - *These States extract 35–57% more groundwater than annual recharge.*
- **Incentive Structure:** *Minimum Support Price (MSP) for rice has risen ~70% in a decade. Free or subsidised electricity encourages over-extraction of groundwater.*
  - *Government subsidies discourage farmers from switching to less water-intensive crops*
- **Rising Cost of Cultivation:** *Farmers are forced to drill deeper borewells and invest in stronger pumps to support the growing demand.*
- **Climate Vulnerability:** *Groundwater-dependent farming increases exposure to climate variability.*
  - *It leads to reduced resilience during weak monsoons or heat stress periods.*
- **Ethical Concern:** *Producing 1 kg of rice consumes 3,000–4,000 litres of water, far above the global average.*
  - *It raises ethical and strategic questions on exporting water-intensive crops from a water-stressed country.*
- **Global Implications:** *Being the largest rice exporter, any reduction in India's rice output affects global food prices and food security.*
- **Environmental Concerns:** *Rice is a semi-aquatic plant* **cultivated in flooded fields,** *where it thrives under a layer of* **stagnant water.**
  - *This creates the* **ideal anaerobic conditions** *for bacteria to thrive on decomposing organic matter and* **release methane.**
  - *This phenomenon contributes significantly to* **global methane emissions.**

Way Forward

- **Shift to Sustainable Cropping Patterns:** *Gradually discourage water-intensive rice cultivation in water-stressed regions and promote*

millets, pulses and maize through MSP reform and procurement diversification.

- **Water-Smart Agriculture:** *Scale up Direct Seeded Rice (DSR), micro-irrigation, and precision farming; rationalise free power to curb groundwater over-extraction.*
- **International Coordination:** *Engage with importing countries and global institutions to reduce price volatility and ensure responsible food trade during crises.*
- **Data-Driven Decisions:** *Use real-time data on groundwater, production and stocks to guide export decisions instead of ad-hoc administrative controls.*

Conclusion

- *A sustainable rice export strategy must balance farmer welfare, ecological limits, food security and global responsibility, shifting India from being merely the largest exporter to a responsible agricultural power.*

Source: TH

ISSUES WITH GIG WORKERS IN INDIA

In Context

- *Gig and platform worker unions have called for a strike, protesting the denial of basic labour rights and alleged exploitation by food delivery and taxi platforms.*

What is the Gig Economy?

- *According to the World Economic Forum, The gig economy involves short-term, task-based work facilitated by digital platforms connecting workers with customers.*
- *In India, gig workers are defined as "self-employed" workers, and the gig labour force has seen increasing participation of women.*
- *Gig workers provide a wide range of services like driving, beauty, housework, food delivery, etc.*
  - *They are paid per assignment or gig, and their work is viewed as flexible with freedom from the traditional 9 to 5 office culture.*
- **Types**
  - **Web-based gig work** – *Gig workers perform their tasks virtually or digitally like content writing, software development, digital marketing, data analytics, etc.*
  - **Location-based work** – *Tasks are carried out locally or in person but are facilitated by digital platforms like Ola, Uber, Zomato, and Urban Company.*

Advantages of Gig and Platform Work

- **Flexibility:** *Workers can choose hours and tasks, balancing personal and professional commitments.*
- **Income opportunities:** *Provides livelihood to millions, especially youth and women, without requiring formal qualifications.*
  - *Women may earn more in gig work and can balance domestic and professional responsibilities.*
- **Skill development:** *Exposure to digital tools and customer service enhances employability.*
- **Economic contribution***: Gig economy supports sectors like logistics, e-commerce, and urban mobility, contributing to GDP growth.*

Challenges Faced by Workers

- **Lack of social security:** *Most workers are outside traditional labor protections.*
  - *Lack of adequate labour regulations exposes workers to exploitation.*
- **Income insecurity because** *Earnings fluctuate with demand-*
- **Health and safety risks:** *Delivery and transport workers face accidents, long hours, and inadequate insurance.*
  - *Vulnerable to extreme conditions (e.g., 2024 heatwave) and unsafe working environments.*
- **Absence of collective bargaining:** *Fragmented workforce limits negotiation power with platforms.*
- **Gender disparities:** *Women face safety concerns and lower participation rates compared to men.*

Steps Taken in India

- *The* **Code on Social Security, 2020** *marked the first formal recognition of gig and platform workers in law, entitling them to benefits such as accident insurance, health and maternity cover, and old-age protection.*
- *The government launched the* **e-Shram portal in 2021** *to create a national database of unorganised workers.*
  - *The portal has registered over 30.98 crore workers, including 3.37 lakh gig and platform workers.*
- *In the* **Union Budget 2025-26,** *the government announced a plan to extend* **Ayushman Bharat – Pradhan Mantri Jan Arogya Yojana (AB-PMJAY)** *benefits to platform workers.*

- *Government is also working on setting up a* **Social Security Fund** *with contributions from the Centre, state governments, and digital platforms to support gig workers*
- **States like Rajasthan, Karnataka, and Telangana** *have introduced their own legislation: Rajasthan's 2023 Act requires employers to contribute a monthly welfare cess, while Telangana's 2025 draft bill mandates registration of gig workers by employers and aggregators to ensure social security and welfare benefits.*

Conclusion and Way Forward

- *India's gig and platform economy is expanding rapidly, offering flexibility and new income opportunities, but workers face challenges like lack of social security, income instability, and absence of formal contracts.*
- *Therefore there is a need for comprehensive data on gig workers to understand their socio-economic conditions and working patterns*
- *While policymakers highlight technological progress and workforce flexibility, it is crucial to ensure minimum wages, social security, collective bargaining rights, and protection against algorithmic biases and arbitrary account deactivations.*

Source :TH

NEWS IN SHORT

ULCERATIVE COLITIS (UC)

Context

- *A new study has suggested that* **ulcerative colitis** *may be triggered when a normally hidden layer of immune cells, located just beneath the gut lining, becomes thinner.*

About

- **Ulcerative colitis (UC)** *is a* **chronic inflammatory bowel disease (IBD)** *that causes long-lasting inflammation and ulcers in the* **inner lining of the large intestine (colon) and rectum.**
  - *It is an* **auto-inflammatory/immune-mediated condition** *with periods of flare-ups and remission.*
- **Causes:** *Immune system dysfunction attacking the gut lining, Genetic susceptibility, environmental factors (diet, infections, gut microbiome imbalance).*
- **Management:**
  - *Anti-inflammatory drugs, steroids for flares, immunosuppressants and biologics, surgery in severe or refractory cases (can be curative).*

Source: TH

NATIONAL TEST HOUSE

In News

- *The National Test House (NTH) will be empanelled as a recognised laboratory for NHAI. It will send samples related to highway construction and allied works to NTH laboratories across the country for testing and inspection.*

National Test House (NTH)

- *It is India's largest multi-location multidisciplinary industrial* **central government's testing laboratory** *dealing with almost all sorts of testing, calibration and quality evaluation related to industry, commerce, trade etc. as per international and national standards.*
- *It was* **established in 1912 under the Department of Consumer Affairs, Ministry of Consumer Affairs, Food & Public Distribution**.
- *It is a leading scientific testing and quality assurance organisation with a pan-India presence.*

Importance

- *This would improve transparency, standardisation and efficiency in quality assurance processes.*
- *It will help enhance the safety, durability and performance of national highways and support the Government of India's vision of strong, reliable and world-class infrastructure.*

Source: PIB

JIVA PROGRAMME

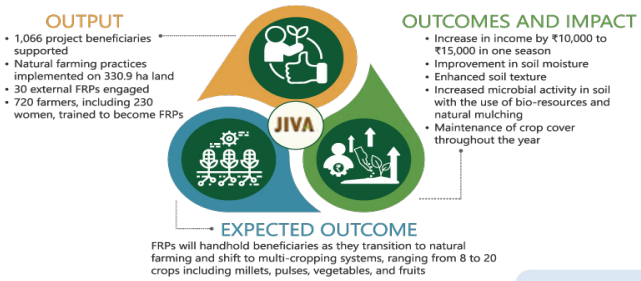
Context

- *The* **JIVA programme** *in drought-prone Nanded district of Marathwada has been beneficial for small and marginal farms.*

Components of JIVA Programme

- *The JIVA programme (Joint Initiative for Village Advancement), launched in 2022 by the* **National Bank for Agriculture and Rural Development (NABARD)**, *is an agroecology-based initiative to promote natural farming in India.*
- *The program is implemented in three phases viz.,* **Learning Phase and Upscaling and Consolidation phases.**

- **Objectives of the Programme:**
  - *Promote long-term sustainability of farming systems using* **natural and low-cost inputs.**
  - **Strengthen resilience** *against climate variability and drought through ecological methods.*
  - **Enhance soil health**, *biodiversity, and food security in rural landscapes.*
  - *Facilitate a* **shift from input-intensive to ecosystem-based agriculture** *for small and marginal farmers.*
- **Focus Areas:** *Implemented in existing watershed and tribal development projects in ecologically sensitive regions.*



Source: DTE

ALTERNATE WETTING AND DRYING (AWD)

Context

- **Alternate Wetting and Drying (AWD)** *offers Indian rice farmers a simple way to save water, cut methane emissions, and earn carbon income without reducing yields.*

About

- **Conventional rice farming** *uses flooded fields to suppress weeds, but the resulting anaerobic soil promotes* **methane-producing microbes**, *emitting methane—a greenhouse gas 28 times more potent than* CO_2.
- **Methane** *is responsible for 30% of global warming, and rice farming contributes 12% of the overall methane emissions stack.*
  - *Globally, conventional rice farming contributes to the same amount of GHGs as the aviation industry.*
- **Under AWD,** *the paddy fields, instead of being constantly flooded, are* **periodically dried out before re-flooding**. *The idea is to disrupt the waterlogged anaerobic conditions conducive to methane-producing microbes.*
  - *Simple water tubes, approximately 30 cm long, with perforations across the submerged half, are used to measure the depth of the water table.*
  - **Practice:** *Flood paddy fields for the first 20 days after transplanting.*
    - **Between day 21–65:** two dry cycles of ~6 days each.
- **Significance:**
  - *India is the world's largest rice producer and exporter, AWD aligns food security, water conservation and climate mitigation.*
  - *It supports India's NDC targets and climate-resilient agriculture agenda.*

Source: IE

CARBON BORDER ADJUSTMENT MECHANISM (CBAM)

In News

- *The European Union has begun rolling out the* **Carbon Border Adjustment Mechanism (CBAM)**, *which will significantly impact steel and aluminium exporters.*
  - *This comes at a difficult time for Indian metal exporters, who are already facing a 50% duty on exports to the US.*

Carbon Border Adjustment Mechanism (CBAM)

- *It was introduced in 2023, taxes certain imported goods based on the carbon emissions generated during their production.*
- *It is an import duty imposed by the European Union on goods produced outside Europe.*
- *It applies to products made using processes with higher carbon emissions than those permitted for European manufacturers.*
- *The objective is to prevent "carbon leakage", where production shifts to countries with weaker climate rules.*
- *It is in a transitional phase from 2023 to 2025 and will fully come into force in 2026.*
- **Coverage:** *Under CBAM, imports are taxed based on the carbon emissions generated during their production.*
  - *CBAM currently covers steel, aluminium, cement, electricity, fertilizers, and some other goods, though India exports limited quantities of non-metal products to the EU.*

Criticisms

- *Developing countries such as India and China have strongly opposed the EU's Carbon Border Adjustment Mechanism (CBAM), calling it a unilateral and unfair trade barrier that violates international trade and climate agreements.*
- *They have repeatedly raised their concerns at global platforms, including climate conferences, but the European Union has remained firm.*
- *BRICS nations condemned CBAM as a discriminatory, protectionist measure imposed under the guise of environmental concerns.*

Impacts on India

- *India is the second-largest exporter of steel and aluminium to the EU, after China.*
- *Since most Indian steel is produced using blast furnaces, which are carbon-intensive, Indian exports will face higher costs.*
- *As a result, exports to the EU may become economically unviable, pushing Indian companies to explore alternative markets in Africa and West Asia.*
- *There is uncertainty about whether CBAM will be applied at a company level or country level.*
- *The Indian government is seeking a CBAM exemption through an ongoing free trade agreement (FTA) negotiation with the EU.*

Source :TH

NATIONAL FREQUENCY ALLOCATION PLAN 2025 (NFAP-2025)

In News

- *The Department of Telecommunications (DoT), Ministry of Communications, released the* **National Frequency Allocation Plan 2025 (NFAP-2025)**.

National Frequency Allocation Plan 2025

- *It is a key policy document that governs the management and allocation of* **radio-frequency spectrum in India**.
- *It will provide the allocation of* **radio-frequency spectrum** *to various radio-communication services in the frequency range 8.3 kHz to 3000 GHz.*
- *It serves as an essential reference for* **spectrum managers, wireless operators, and telecom equipment manufacturers.**

Key Enhancements in NFAP-2025

- *NFAP-2025 introduces several strategic and future-ready revisions to meet the growing spectrum demand for next-generation technologies:*
  - *Identification of the 6425–7125 MHz band for* **International Mobile Telecommunications (IMT)**, *significantly enhancing mid-band spectrum availability for 5G, 5G Advanced, and future 6G networks.*
  - **Allocation of Ka, Q, and V bands for satellite-based services**, *crucial for high-throughput Geo-Stationary Orbit (GSO) satellites and large non-GSO satellite constellations.*
  - *Additional spectrum for* **In-Flight and Maritime Connectivity (IFMC)** *to ensure seamless broadband access in the air and at sea.*
  - *Support for emerging technologies such as Vehicle-to-Everything (V2X) communication, LEO/MEO satellite services, and expanded broadband connectivity solutions.*

What is Satellite Spectrum?

- *Satellite spectrum refers to the specific radio frequency bands allocated for communication between Earth-based stations and satellites in orbit.*
- *These frequencies enable services such as:*
  - *Television broadcasting*
  - *Satellite internet and broadband*
  - *Navigation (GPS)*
  - *Disaster management and emergency communication*

Regulatory Oversight

- *Unlike terrestrial spectrum (used by mobile towers), satellite spectrum is borderless.*
- *Signals from satellites can cover multiple countries simultaneously. Hence, global coordination is required.*
- *This role is performed by the International Telecommunication Union (ITU), a United Nations specialised agency.*

Why Satellite Spectrum is Important?

- *Rising demand for satellite broadband (LEO constellations), emergency and disaster communication, defence and navigation services.*
- *Critical for remote, border, island, and underserved regions where terrestrial networks are weak or absent.*

Source :PIB