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Foreword

Officers Pulse-In Depth provides detailed analyses of significant articles from a variety of sources including **The Hindu, Indian Express, Business Standard, Yojana, Kurukshetra, Down to Earth, and others.** These insights are extremely valuable for UPSC CSE Mains preparation. To ensure comprehensive preparation for both Prelims & Mains, we recommend studying **Officers Pulse-In depth** along with **Officers Pulse-Digest.**

Note: The keywords provided in the blue box below are crucial for Mains. They highlight essential themes and terminologies that can enhance the quality of answers.

Sample:

KEY WORDS

- **Monetary Policy Committee (MPC)** - Six-member RBI body deciding repo-rate to maintain inflation target ($4 \pm 2\%$).
- **Core Inflation** - Inflation rate excluding food and fuel, showing underlying price trends.
- **Headline Inflation** - Overall inflation measured by Consumer Price Index (CPI).
- **Tolerance Band** - Permissible inflation range around RBI's target for policy flexibility.
- **Section 45ZN, RBI Act 1934** - Mandates RBI to explain causes and remedies if inflation exceeds target for three quarters.
- **Fiscal-Monetary Coordination** - Synchronization of government spending and RBI policy for macro stability.
- **Financial Inclusion** - Ensuring affordable access to financial services for all sections, esp. vulnerable groups.

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1) INDIA'S ROADMAP TO FUSION ENERGY

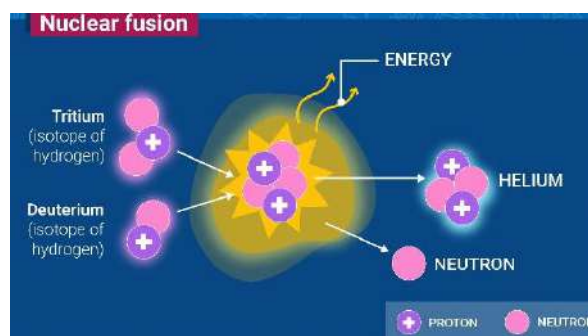
(GS-III: Science and Technology- developments and their applications and effects in everyday life. OR Infrastructure: Energy, Ports, Roads, Airports, Railways, etc.)

Background

The Institute for Plasma Research (IPR), Gandhinagar, has outlined a roadmap to develop **India's first fusion electricity generator**, the Steady-state Superconducting Tokamak-Bharat (SST-Bharat). The project envisages a 100 MW hybrid reactor (fusion-fission), with a long-term goal of achieving 250 MW capacity. The estimated construction cost is around ₹25,000 crore.

Nuclear Fusion

- According to IAEA (International Atomic Energy Agency), Nuclear **fusion is the process by which two light atomic nuclei combine to form a single heavier one** while releasing massive amounts of energy.
- In stars (like **the Sun**), fusion is driven by **the proton-proton chain**: Two protons (helium) fuse to form **deuterium**, emitting a **positron** (antiparticle of the electron) and a neutrino; **deuterium** (stable isotope of hydrogen) fuses with another proton to form helium-3, and two helium-3 nuclei fuse to form helium-4, releasing energy as radiation and particles.
- On Earth, the most practical fusion reaction is **the deuterium-tritium (D-T) reaction**. In this process, a neutron and a helium nucleus are produced, with the mass lost converted directly to energy by $E = mc^2$



Significance

- Fusion differs from fission in the sense that fusion joins light atoms, while fission splits heavy atoms. This fundamental difference highlights the various advantages of fusion.
- For decades, fission reactors have provided the backbone for nuclear power. **Fusion**, however, is **more attractive** than fission because it **produces less radioactive waste**, making it a promising sustainable energy source.
- Globally, the **French tokamak** achieved a record **22-minute plasma confinement** and initiatives like **ITER** provide platforms for collaboration and knowledge-sharing.

Challenges with Generating Fusion Power

- Fusion requires **extreme temperatures and strong magnetic confinement** to sustain plasma.
- Significant R&D is needed in plasma modelling, advanced materials, and high-temperature engineering.
- **Commercial viability** remains uncertain due to technological and cost-related barriers.

Implications of the Success of India's Fusion Power Project

- **Energy Security:** Provides a reliable, almost limitless source of clean energy, reducing dependence on fossil fuel imports.
- **Environmental Benefits:** Produces minimal radioactive waste and zero greenhouse gas emissions.
- **Technological Advancement:** Positions India as a global leader in fusion and plasma technologies.
- **Economic and Industrial Impact:** Boosts high-skilled employment and domestic R&D in advanced energy sectors.
- **Strategic and Geopolitical Significance:** Enhances energy independence, reducing vulnerability to global energy fluctuations.
- **Long-term Sustainable Development:** Offers a clean, scalable energy solution for India's growing population and economy supporting future environmental goal like Net Zero 2070.

Conclusion

India's phased fusion roadmap adopts a long-term, prudent strategy that integrates domestic R&D, global collaboration, and advanced simulation. While commercial fusion may take decades, **incremental development and continuous innovation can position India as a leader in next-generation clean energy**, offering significant benefits for energy security, economic growth, and environmental sustainability.

KEY WORDS

- **Nuclear Fusion** – The process of combining two light atomic nuclei to form a heavier one, releasing immense energy. It powers the sun and is seen as the future of clean energy.
- **ITER Project** – International Thermonuclear Experimental Reactor; a global initiative to demonstrate large-scale, carbon-free fusion energy.
- **Plasma Confinement** – The method of keeping hot, charged gas (plasma) stable using magnetic or inertial techniques for sustained fusion reactions.
- **Commercial viability** – Ability of a project or business to generate sustainable profit.
- **Tokamak** – It is a magnetic device that confines plasma for controlled nuclear fusion.

UPSC PYQ

The fusion energy programme in India has steadily evolved over the past few decades. Mention India's contributions to the international fusion energy project – International Thermonuclear Experimental Reactor (ITER). What will be the implications of the success of this project for the future of global energy? [2025]

2) HEALTHCARE AS AN INSTRUMENT OF PRODUCTIVITY & ECONOMIC GROWTH IN INDIA

(GS-II Government policies and interventions for development in various sectors and issues arising out of their design and implementation | Services relating to Health, Education, Human Resources.)

Background

The World Bank and WHO recognize good health as a foundation of human capital, directly impacting productivity and economic growth. In India, however, historically high out-of-pocket health expenditure is 64% (in 2013–14), pushed families into poverty traps and eroded household savings.

Rationale: Why Health = Productivity

- **Reduction in Disease Burden Protects Household Savings:**
 - Improved health reduces disease burden and workday loss.
 - A notable decline observed in **out-of-pocket health expenses—from 64% in 2013-14 to 39% in 2021-22**, a shift attributed to expanding insurance, subsidised medicines and sanitation improvements.
- **Improved Learning Capacity for Children:**
 - Healthier children exhibit better cognitive development, higher school attendance, and improved learning outcomes.
 - This nurtures a skilled and knowledgeable future workforce, essential for sustained economic progress.
- **Enhanced Women's Health Boosts Workforce Participation:**
 - Women's health improvements, particularly in reproductive and maternal care, will reduce absenteeism and dropout rates.
- **Promotion of Social Equity:**
 - Greater healthcare access supports inclusive growth by reaching vulnerable populations.

Major Health Interventions and Their Role in Productivity

- **Ayushman Bharat (PM-JAY):**
 - This flagship **health insurance scheme**, launched in 2018, offers free coverage up to ₹5 lakh for poor and vulnerable citizens.
 - It has **become the world's largest publicly funded health insurance scheme, covering 55 crore people.**
 - This has **significantly reduced expenses**, which helps families to save money that can be invested in education and livelihoods.
- **POSHAN Abhiyaan**
 - This mission addresses **malnutrition** among children, adolescent girls, pregnant women and lactating mothers, which is critical for healthy cognitive development and better learning outcomes.
 - Data from **NFHS-5 shows encouraging progress**, with reductions in child stunting and underweight prevalence.

- **Pradhan Mantri Bhartiya Janaushadhi Pariyojana (PMBJP)**
 - The scheme provides affordable **generic medicines** through a network of over 16,900 centres.
 - This has reduced the financial burden of healthcare on households, **freeing up resources** for other productive uses.
 - Beneficiaries saved between 50% - 90% on medicine.
- **Swachh Bharat Mission (SBM)**
 - By improving sanitation facilities, SBM **helps reduce waterborne diseases** and saves an estimated 60,000-70,000 infant lives every year.
 - **UNICEF** estimates that SBM **saves rural households around ₹50,000 crore** annually in medical costs and productivity losses.
- **Women-Centric Schemes (Beti Bachao Beti Padhao and Maternal Health Initiatives)**
 - These programs focus on improving women's health and empowerment, which positively impacts child development and **raises female workforce participation**.
 - The **maternal mortality ratio declined from 130 per 100,000 (2014-16) to 97 per 100,000 (2018-20)**, alongside increases in female literacy rates and school enrolment.

Conclusion

Healthcare is a pillar of productivity, not a welfare burden. By investing in preventive and affordable healthcare, India is strengthening human capital, economic security, and inclusive growth. If sustained, these initiatives will be central to achieving the goal of Viksit Bharat by 2047.

KEY WORDS

- **Human Capital** – The economic value of a population's skills, health, and education that enhances productivity.
- **Out-of-Pocket Expenditure (OOPE)** – Direct household spending on healthcare services, often leading to financial stress.
- **Health-Productivity Nexus** – The idea that improved health enhances learning, labour participation, and economic output.
- **Viksit Bharat 2047** – Government vision for a developed India by 2047.
- **Social Equity** – Fair access to opportunities and outcomes across social groups.

3) RETHINKING INDIA'S URBAN DEFINITION

(GS-I Urbanization, their problems and their remedies.)

Introduction

In India, **urban local bodies are more autonomous** and have more freedom and control over their finances, while **Panchayati Raj institutions are limited** to implementing centrally designed welfare schemes. Thus, a question on the definition of Urban arises.

Need/Context

It is proposed to retain the same definition for urban areas for Census 2027, as this will ensure comparability with the previous Census and act as a base for the analysis.

Definition

- **As per the 2011 Census**, an “urban” unit is defined as either a statutory town or a census town.
- **Statutory town**
 - All places that are **formally notified as urban by the State government** are treated as statutory towns.
 - For governance purposes, they **have urban local bodies** with powers over planning, taxation, and service delivery.
- **Census Town**
 - Places that **do not have statutory urban status**, but meet the following census criteria:
 - ✓ Population of at least 5,000
 - ✓ At least 75% of the male working population is engaged in non-agricultural pursuits.
 - ✓ Population density of at least 400 persons per sq. km
 - For governance purposes, they are **administratively under Gram Panchayats** (rural local bodies), but functionally resemble urban areas.

Note:

The term “**urban**” in India is primarily defined by the **Census**, conducted under the **Ministry of Home Affairs**. The definition is based on **Census guidelines and statistical criteria**, rather than any single specific Act. There is **no national legislation** that provides a **uniform definition of “urban”** across the country.

Issues with the Current Definition

- **Outdated workforce criterion**
75% male non-agricultural rule ignores women’s informal/unpaid labour. With the gig economy and app-based jobs spreading into smaller towns, urban employment is no longer limited to major cities.
- **Governance gap**
Census towns remain under Panchayats without municipal status, resulting in weak infrastructure, poor service delivery, and inadequate resource allocation.
- **Underestimation of urbanisation**

Rapid urbanisation is transforming many villages into towns, both in terms of function and form. For example, in West Bengal, 251 census towns identified in 2001 remained rural by 2011, despite urban traits.

- **Rural-urban blur**

Peri-urban and semi-urban areas exhibit both rural and urban features but lack formal recognition and planning frameworks.

Implications with Retaining Definition

- **Faulty planning & allocation:** Mismatch between Infrastructure, welfare schemes, and resource distribution which do not match actual needs.
- **Stunted local governance:** Exclusion from urban local bodies limits autonomy, accountability, and service delivery.
- **Social justice concerns:** Poor and marginalised groups miss out on urban entitlements and Women's work is undervalued.
- **Data mismatch:** Misrepresentation of the urban population affects policymaking at the national and state levels.

Way Forward

- **Revise definitions:** Move beyond rigid criteria to include economic activity, commuting patterns, and built-up area.
- **Graduated urban framework:** Recognise peri-urban and semi-urban settlements with tailored governance models.
- **Gender-sensitive approach:** Include informal, unpaid, and seasonal work in classification.
- **Dynamic planning tools:** Use satellite data, GIS mapping, and real-time surveys for accurate settlement classification.

Conclusion

India's outdated urban definition undermines planning, governance, and inclusivity. With the rapid transformation of rural areas into functional towns, a flexible, multi-dimensional, and gender-sensitive definition of "urban" is essential. Reforming the Census framework for 2027 will be critical for sustainable urbanisation and equitable development.

KEY WORDS

- **Urban Definition (Census Town)** – A settlement with $\geq 5,000$ people, $\geq 75\%$ male non-agricultural workers, and density ≥ 400 persons/km².
- **Peri-Urban Area** – Transition zones between rural and urban spaces exhibiting mixed land-use and governance challenges.
- **Gig & Platform Workers** – Independent workers providing services via digital platforms; now covered under Social Security Code 2020.
- **Sustainable Urbanisation** – City development balancing economic growth with environmental and social goals.

UPSC PYQ

How can urban planning and governance be made more effective in India? [2016]

4) FORMALISATION OF THE INDIAN ECONOMY THROUGH DIGITAL TRANSACTIONS

(GS-II Inclusive growth and issues arising from it.)

Background

The formalisation of the Indian economy, a **long-standing policy objective**, has witnessed a significant acceleration in the last decade. **Driven by structural reforms** like the Goods and Services Tax (GST), the expansion of the Employees' Provident Fund (EPFO), and the digital payments revolution, this transition is increasingly becoming digitally-driven, with the Unified Payments Interface (UPI) emerging as its most visible catalyst.

Definition

Formalization of an economy, refers to the **process of transitioning economic activities from the informal sector**—which includes unregistered businesses, casual labour, and untaxed transactions—**into the formal sector**, where activities are **legally recognition, taxed, social protections are availed, and monitored by institutions thus increasing transparency and economic inclusion**.

Key Trends and Indicators of Formalisation in India

- **Unprecedented Scale of Digital Transactions:** In Q1 of FY25, digital transactions reached a staggering ₹381.5 lakh crore, signalling a massive shift towards a traceable economy.
- **Household-Level Behavioural Shift:** UPI is now ubiquitously used for routine (groceries, utility bills) and non-routine (rent, EMIs, investments) expenses. Households transferred ₹9.83 lakh crore through UPI in a single month (July 2025), indicating its role in formalising even personal financial transfers and debt repayments.

- **Declining Cash Dependence:** Cash withdrawals have nearly halved—from 78 crore transactions in 2018 to 44 crore in 2025. This is reflecting a reduced cash intensity of the economy.
- **Broadening Formal Sector Footprint:** A wider GST registration base has brought more enterprises into the direct tax net. A steady increase in EPFO subscribers points to rising formal employment.

Implications of Formalisation

Positive Implications:

- **Enhanced Revenue & Compliance:** It expands the tax base, improves tax compliance, and boosts government revenue.
- **Financial Inclusion & Credit Access:** It promotes financial inclusion and enables households and MSMEs to access formal credit using their digital transaction history.
- **Curbing Illicit Flows:** It reduces the scope for an informal cash in the economy and black money.
- **Evidence-Based Policymaking:** It provides high-frequency data for more robust, data-driven policymaking.

Associated Concerns:

- **Digital Divide:** The benefits are uneven, with rural areas and certain demographics lagging in digital adoption, risking exclusion.
- **Impact on Savings:** A consistent decline in the household savings rate has been observed, partly linked to reduced cash holdings, which traditionally constituted 'precautionary savings'.
- **Data Limitations:** There is a risk of overestimating formalisation due to data gaps and the inability to fully capture the nature of every digital transaction.
- **Infrastructural Challenges:** The system's success hinges on robust cybersecurity, data protection laws, and resilient digital infrastructure.

Broader Economic Impact

- The UPI-led transformation is fundamentally altering economic behaviour
- There is a visible shift from informal, cash-based markets to formal, digital transactions.
- Precautionary savings are increasingly held in formal financial instruments rather than physical cash.
- The synergy of the JAM trinity (Jan Dhan, Aadhaar, Mobile) and fintech platforms is driving a structural shift, integrating millions into the formal financial ecosystem.

Conclusion

India's journey towards economic formalisation is increasingly being powered by digital public infrastructure, with UPI and fintech at its core. For this transition to be sustainable and equitable, future policy must focus on bridging the digital divide, ensuring robust data privacy, and enhancing digital literacy to create a truly inclusive formal economy.

KEY WORDS

- **Formalisation of the Economy** – Transition of unregistered, untaxed, or informal economic activities into legally recognized sectors.
- **JAM Trinity** – Integration of Jan Dhan accounts, Aadhaar, and Mobile technology to promote financial inclusion.
- **EPFO (Employees' Provident Fund Organisation)** – A statutory body ensuring social security and retirement benefits to organized workers.
- **Digital Divide** – The gap between individuals with and without access to digital technologies and services.
- **Formal Employment** – Jobs providing social security, written contracts, and legal protections under labour laws.
- **Evidence-Based Policymaking** – Formulating policies using reliable data and research evidence.
- **Data Privacy & Protection** – Legal safeguards ensuring citizens' control over personal data in digital systems.

5) CLOUDBURSTS AND DISASTER MANAGEMENT IN INDIA

(GS-III Disaster and Disaster Management)

Background

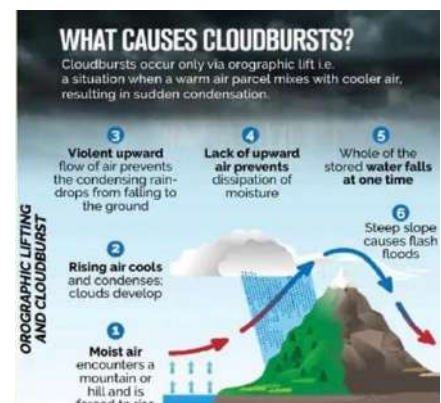
The recent cloudburst in Dehradun, Uttarakhand, resulting in significant loss of life, property, and environmental damage, highlighted the **acute vulnerability of the Indian Himalayan Region (IHR)** to climate-induced hydro-meteorological disasters and the urgent need to re-evaluate India's disaster management paradigm from a reactive to a proactive, preventive model.

The Nature and Impact of Cloudbursts

Cloudbursts are **short-duration, intense rainfall events over a small area**. According to the India Meteorological Department (IMD), it is a weather phenomenon with unexpected **precipitation exceeding 100mm/hr** over a geographical region of **approximately 20-30 square km**.

Mechanism

- The phenomenon is primarily driven by **orographic lift** over mountain ranges like the Himalayas.
- Here, moist monsoon winds are forced upwards, leading to **rapid cooling, condensation**, and the formation of moisture-rich **cumulonimbus clouds**.
- When these clouds can no longer hold the moisture, it is released in a **sudden, intense downpour**, often trapped and concentrated by the confining topography of valleys.



Impact

The disaster's severity stems from this intense rainfall interacting with the terrain, triggering a **cascade of secondary hazards**:

- **Flash Floods:** Sudden, high-volume runoff inundates river channels.
- **Landslides:** Saturated slopes become unstable and fail.
- **Debris Flows:** A destructive slurry of water, mud, and rocks scours the landscape.

Combined, these hazards result in extensive loss of life and property.

Key Challenges in Management

- **Forecasting Limitations:** The localized and sudden nature of cloudbursts makes them extremely difficult to predict with current meteorological models and radar networks.
- **Inadequate Early Warning Systems (EWS):** The lack of last-mile connectivity and real-time dissemination mechanisms often means warnings do not reach vulnerable/isolated communities in time.
- **Ecological Fragility and Unplanned Development:** Rampant construction, deforestation, riverbed encroachment, and infrastructure projects in eco-sensitive zones significantly amplify the impact of these events.
- **Institutional and Coordination Gaps:** While multiple agencies are involved (NDRF, SDRF, armed forces), achieving seamless inter-agency coordination during a crisis remains a challenge.
- **Data and Monitoring Gaps:** Inadequate real-time monitoring of glacial lakes, landslide-prone zones, and river discharge limits pre-emptive action.

Technological Interventions

- **Enhanced Forecasting:** Strengthening the India Meteorological Department (IMD) with a denser network of Doppler radars and advanced modelling for short-duration forecasts.
- **GIS and Remote Sensing:** Utilizing agencies like the National Remote Sensing Centre (NRSC) and Geological Survey of India (GSI) for high-resolution mapping of landslide-prone zones, glacial lakes, and river basins.
- **Integrated Early Warning:** Developing systems that combine real-time rainfall, river discharge, and landslide data for automated alerts.

Way Forward

The rising trend of cloudbursts is intrinsically **linked to climate change**, which is altering weather patterns. A sustainable strategy must address both the symptoms and the root causes.

- **Develop a Regional Resilience Strategy:** Formulate a dedicated Himalayan Disaster Resilience Strategy that integrates disaster risk reduction with climate adaptation and developmental planning.
- **Enforce Scientific Land-Use Planning:** Strictly implement land-use zoning laws to restrict construction and infrastructure development in identified high-hazard areas.

- **Promote Community-Based Disaster Management (CBDM):** Build local capacity through training, mock drills, and equipping communities to be first responders.
- **Mainstream Disaster Risk Reduction (DRR):** Integrate DRR principles into all urban planning and mountain development policies.

Conclusion

The growing threat of cloudbursts represents a critical test for India's disaster management capabilities. Moving beyond a relief-centric approach is imperative. The future lies in building a preventive, technology-driven, and adaptive system rooted in scientific planning, robust early warning, and empowered communities. Building resilience against such climate-induced disasters is not just a policy goal but a fundamental prerequisite for sustainable development in vulnerable regions.

KEY WORDS

- **Cloudburst** – A localized, intense rainfall event (>100mm/hour over ~20–30 km²), causing flash floods and landslides.
- **Orographic Lift** – The upward movement of moist air over mountains, leading to condensation and heavy rainfall on windward slopes.
- **Disaster Resilience** – The ability of communities to prepare for, absorb, and recover from natural disasters effectively.
- **Remote Sensing** – Acquiring earth data via satellites or aircraft for mapping and disaster management.
- **Doppler Radar** – Weather radar detecting precipitation and storm movement; crucial for short-range forecasting.

UPSC PYQ

Explain the mechanism and occurrence of cloudburst in the context of the Indian subcontinent. Discuss two recent examples. [2022]

6) GLOBAL PLASTIC POLLUTION CRISIS

(GS-III Conservation, Environmental Pollution and Degradation, Environmental Impact Assessment.)

Background

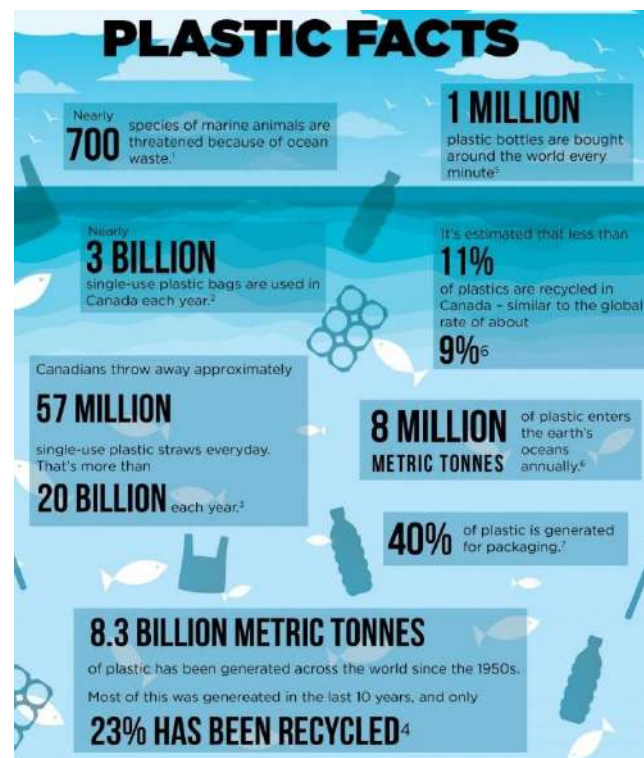
“Many people aren’t aware that a material that is embedded in our daily life can have significant impacts not just on wildlife, but on the climate and on human health,” says Llorenç Milà i Canals, Head of the United Nations Environment Programme’s (UNEP’s) Life Cycle Initiative. Plastic pollution has emerged as one of the most serious global environmental issues.

Scale of the Problem

- Global plastic consumption has increased drastically with industrialization and economic growth.
- According to, **OECD's Global Plastic Outlook (2022)**:
 - Global plastic production doubled from 2000 to 2019 → 460 million tonnes.
 - Waste generation grew to 353 million tonnes.
 - Only 9% recycled, 19% incinerated, 50% in landfills, and 22% leaked into environment.
- By 2060, plastic waste could triple to 1.2 billion tonnes.
- 11 million tonnes of plastic enter oceans annually; may exceed fish biomass by mid-century.

Why Plastic Pollution is a Grave Issue

- **Pervasive Pollution:** Non-biodegradable; breaks into micro/nano-plastics contaminating all environments (Mount Everest to ocean depths).
- **Ocean Crisis:** 11 million tonnes enter oceans annually; an estimated 200 million tonnes already in marine ecosystems. At this rate there will be more plastic than fish (by weight) by mid-century.
- **Climate Change Link:** Plastics account for 3.4% of global GHG emissions. Projected to use 19% of global carbon budget by 2040.
- **Health impacts:** Enters food chain, causes endocrine disruption, and affects marine biodiversity.
- **Overproduction:** Between 2000 & 2019, global plastic production doubled to 460 million tonnes, generating 353 million tonnes of waste, with projections indicating that plastic waste could triple to 1.2 billion tonnes by 2060.
- **Problematic Lifespan & Composition:** Around two-thirds of plastic waste has a short lifespan of less than five years, with the majority coming from packaging (40%), consumer goods (12%), and clothing and textiles (11%).
- **Inefficient Waste Management:** only 9% is recycled, 19% is incinerated, and 50% ends up in landfills, while 22% escapes formal management systems, leaking into terrestrial and aquatic environments, particularly in poorer nations.



Global Efforts

- **UNEP's Global Plastic Treaty** (under negotiation, 2022–2024) aims to end **plastic pollution by 2040**. Targets:
 - Cut plastic production by 80% by 2040.
 - Promote circular economy, sustainable materials, and innovation.
 - Enhance waste collection and recycling systems globally.
- **Ocean Conservancy and Intergovernmental Negotiating Committee** – promoting global cooperation.
- **UNEP's Clean Seas Campaign (2017)**
 - Encourages countries, companies, and citizens to reduce single-use plastics.
 - Advocates for policies like bans on microbeads, plastic bags, and straws.
- **G20 and OECD Guidelines**
 - Promote circular economy approaches to plastics.
 - Encourage extended producer responsibility (EPR) for plastic packaging.
- **Basel Convention**
 - To reduce the movement of hazardous waste between countries, especially from developed to developing countries.

National Efforts (India)

- **Plastic Waste Management Rules, 2016 & 2021 (amended):**
 - Ban on single-use plastics (from July 2022).
 - **Extended Producer Responsibility (EPR)** for manufacturers.
 - Promotion of alternatives like compostable and biodegradable plastics.
- Ban and restrictions, **waste-to-wealth initiatives**, public awareness campaigns and other future directions have been taken.
- **Swachh Bharat Mission, Namami Gange, and Clean Coasts initiatives** integrate plastic waste management.

Role of Governments

- **Regulate production and consumption** within ecological limits.
- **Impose taxes** on virgin plastics, incentivize recycling.
- **Promote** eco-design, biodegradable alternatives, and deposit-refund schemes.
- Strengthen international cooperation and **circular economy models**.

Role of Individuals

- Adopt sustainable consumption **habits** — avoid single-use plastics.
- Promote segregation, reuse, and recycling.
- Support eco-friendly brands and citizen-led clean-up initiatives.
- Use social media and awareness campaigns to influence behavioural change.

Challenges in Tackling Plastic Pollution

- **Waste collection and segregation systems remain weak**, especially in developing nations.
- **Recycling** is often **economically unviable** due to high costs and low demand for recycled plastic.
- Global efforts are **fragmented**, with no strong, enforceable international treaty in place.
- Many nations **lack advanced** recycling **infrastructure** and monitoring mechanisms.
- Biodegradable and eco-friendly alternatives are **costly and not widely available**.
- Public awareness about reducing and **segregating plastic waste remains inadequate**.
- **Informal waste workers** face neglect, affecting overall waste recovery efficiency.
- **Rapid urbanization and rising consumption** continue to outpace waste management capacity.

Way Forward

- **Transition to Circular Economy** – “**reduce, reuse, recycle, recover.**”
- Promote **green alternatives** (bio-plastics, paper, jute).
- **Research & Development** in waste-to-energy and plastic substitutes.
- International **legally binding treaty** with clear targets and monitoring.
- Integrated plastic **credits and polluter-pay principle**.

Conclusion

The plastic pollution crisis requires an urgent, multi-pronged global response integrating policy, technology, market mechanisms, and behavioural change. Achieving the SDGs hinges on effectively curbing plastic production, improving waste management, and fostering a circular economy.

KEY WORDS

- **Plastic Pollution** – Accumulation of plastic waste in the environment, threatening ecosystems, health, and climate.
- **Circular Economy** – An economic model emphasizing reuse, recycling, and reduced waste, promoting sustainability.
- **Extended Producer Responsibility (EPR)** – Policy approach making manufacturers responsible for the end-life of their products.
- **Micro-plastics** – Tiny plastic fragments contaminating food chains and ecosystems.
- **Polluter-Pays Principle** – Environmental law concept that those who cause pollution bear mitigation costs.

7) STUBBLE BURNING AND AIR POLLUTION

(GS-III Conservation, Environmental Pollution and Degradation, Environmental Impact Assessment.)

Background

Stubble burning refers to the **deliberate setting fire of crop residue, primarily paddy stubble, after harvest to quickly clear fields for the next sowing season** (rabi). It is a major seasonal contributor to severe air pollution, especially in the National Capital Region (NCR) and adjoining states such as Punjab, Haryana, and Uttar Pradesh, with peak impact during the post-monsoon months of October–November.

Major Causes

The persistence of this practice can be attributed to a combination of economic, technical, and policy-related factors:

- **Short Sowing Window:** A narrow time gap between the kharif harvest and rabi sowing forces farmers to opt for the quickest clearance method.
- **Lack of Affordable Alternatives:** Efficient stubble management machinery (e.g., Happy Seeders) remains costly and inaccessible for many smallholders.
- **Agrarian Distress:** Widespread farmer indebtedness and economic constraints make investing in sustainable practices unviable without strong financial support.
- **Weak Enforcement and Political Reluctance:** State governments often hesitate to enforce bans stringently due to the political sensitivity of penalizing farmers.

Institutional and Policy Framework

Several institutional and policy measures have been introduced, but with limited success:

- **Commission for Air Quality Management (CAQM):** Established to coordinate air quality management across states (Delhi, Punjab, Haryana, UP, Rajasthan). However, it has been hampered by limited autonomy, poor enforcement capacity, and political interference.
- **Judicial Interventions:** The Supreme Court has repeatedly directed governments to take concrete action, including discussing the prosecution of offenders.
- **Policies and Subsidies:** The National Clean Air Programme (NCAP) and the National Policy for Management of Crop Residue (NPMCR) aim to reduce agricultural emissions. Subsidies are provided for machinery, but implementation remains inconsistent and half-hearted.

Key Challenges

Addressing stubble burning is fraught with systemic challenges:

- **Economic Barriers:** High costs of alternative technologies deter individual farmers.
- **Policy Incoherence:** Lack of sustained coordination between central and state governments.

- **Data Opacity:** Underreporting of stubble burning incidents by states masks the true scale of the problem.
- **Over-reliance on Short-term Measures:** A focus on temporary solutions rather than systemic, long-term agricultural reform.

Way Forward

A sustainable solution requires a multi-pronged, supportive approach:

- **Promote In-Situ Management:** Scale up the use of Happy Seeders, bio-decomposers (like Pusa decomposer), and other methods that integrate residue back into the soil.
- **Financial Incentives:** Provide direct subsidies linked to Direct Benefit Transfer (DBT) to ensure transparency and reach.
- **Develop Ex-Situ Solutions:** Create value chains to convert stubble into biofuel, compost, packaging material, or cattle feed, making management economically attractive.
- **Crop Diversification:** Incentivize a shift away from water-intensive paddy to less residue-generating crops like millets, pulses, and oilseeds.
- **Strengthen Institutions:** Empower the CAQM with greater authority and ensure inter-state accountability.
- **Community-Centric Models:** Encourage custom hiring centers and farmer cooperatives for shared access to expensive machinery.
- **Avoid Punitive Measures:** Focus on support and awareness rather than penalizing farmers, who often act out of compulsion.

Conclusion

Stubble burning is a complex socio-economic and environmental issue that cannot be resolved through punitive actions alone. A lasting solution lies in a supportive policy framework that combines affordable technology, financial incentives, market-linked ex-situ solutions, and crop diversification. Empowering farmers as partners in this transition is essential for improving air quality and ensuring sustainable agricultural practices.

KEY WORDS

- **Bio-decomposer** (e.g., Pusa Decomposer) – A microbial solution that helps decompose crop residues naturally, reducing stubble burning.
- **Commission for Air Quality Management (CAQM)** – Statutory body coordinating air quality improvement efforts across NCR and adjoining states.
- **National Clean Air Programme (NCAP)** – India's strategy to reduce air pollution by 20–30% across cities by 2024.
- **Biofuel** – Renewable energy from biomass; reduces fossil-fuel dependency and stubble burning.

8) GOVERNOR'S ROLE IN ASSENT TO BILLS

(GS-II Functions and Responsibilities of the Union & the States, Issues and Challenges Pertaining to the Federal Structure, Devolution of Powers & Finances up to Local Levels and Challenges Therein.)

Background & Context

- The Governor's power to grant assent to state bills has **become a major federal and constitutional issue**, especially in opposition-ruled states.
- Recent judicial scrutiny arose from the **Supreme Court judgment** in State of Tamil Nadu vs Governor of Tamil Nadu (2025), which **held that Governors cannot withhold assent indefinitely**. A Presidential reference (May 2025) is pending before the Supreme Court to decide whether courts can prescribe a fixed timeline for Governors to decide on bills.

Constitutional Provisions

- **Article 163:** Governor acts on the aid and advice of the Council of Ministers, except where the Constitution grants discretion.
- **Article 200:** Options for Governor upon presentation of a bill:
 - Grant assent
 - Withhold assent
 - Return the bill (if not a Money Bill) for reconsideration
 - Reserve the bill for President's consideration
- **Article 201:** Deals with President's assent to bills reserved by the Governor.

Key Issues & Controversies

- **Indefinite Delays:** Lack of timeline enables a de facto pocket veto, stalling governance.
- **Political Misuse:** Allegations of partisan action by Governors, especially in opposition-ruled states.
- **Judicial Overreach Debate:** Whether courts can impose timelines on constitutional functionaries.
- **Federal Tension:** Delays undermine state autonomy and legislative sovereignty.

Arguments for Fixing Timelines

- **Upholds Democratic Mandate:** It ensures that Bills passed by the elected legislature, reflecting the people's will, are not frustrated by indefinite executive inaction.
- **Prevents Pocket Veto:** Fixed timelines eliminate the possibility of a Governor effectively vetoing legislation through prolonged delay without formally rejecting it.
- **Ensures Legal Certainty:** It provides predictability in governance, allowing both the government and citizens to know when a law will come into effect.
- **Strengthens Federalism:** It protects the legislative autonomy of states, particularly those ruled by opposition parties, from partisan delays by a centrally appointed Governor.
- **Reduces Litigation:** Clear deadlines minimize judicial intervention by providing an objective standard, thus avoiding prolonged legal battles over gubernatorial inaction.

Arguments Against Fixing Timelines

- **Violates Constitutional Discretion:** Imposing rigid timelines curtails the deliberate discretion granted to the Governor by the Constitution to examine Bills for legal and constitutional soundness.
- **Risks Hasty Decisions:** Complex Bills, especially those with financial, federal, or legal ramifications, require careful scrutiny, which may be compromised under strict deadlines.
- **Disregards Exceptional Cases:** A fixed timeline fails to account for situations where a Governor may need to consult with the central government or seek legal advice before making a decision.
- **Encroaches on Separation of Powers:** For the judiciary to prescribe deadlines for another constitutional authority could be seen as an overreach into the executive domain.
- **Undermines a Constitutional Safeguard:** The Governor's role as a check on the state legislature is diluted if they are forced to act without adequate time for consideration.

Proposed Middle Path:

- **Presumptive Timelines:** e.g., 4–6 weeks for ordinary bills; longer for complex/reserved bills.
- **Mandatory Recording of Reasons:** Governor must give written grounds for withholding assent.
- **Fast-Track Reconsideration:** If returned, legislature should re-pass quickly; Governor must then assent.
- **Legislative Amendment:** Parliament may consider amending Articles 200 & 201 to insert timelines.

Way Forward

- Adopt a **balanced approach** that respects constitutional discretion while ensuring accountability.
- Introduce guidelines or **model procedures** for Governors to follow.
- Use **judicial review as a check** only in cases of mala fide or unreasonable delay.
- **Promote cooperative federalism** through transparent and time-bound processes.

Conclusion

The debate over the Governor's assent reflects deeper tensions in Indian federalism. While the **Governor's role as a constitutional safeguard is important, it should not become a tool to undermine elected state governments.** A reasonable timeline with recorded reasoning can preserve both democratic will and constitutional integrity.

KEY WORDS

- **Pocket Veto** – Indefinite withholding of assent by Governor/President; not explicitly provided but practiced.
- **Co-operative Federalism** – Centre and states working together in policy formulation and implementation.
- **Judicial Review** – Power of courts to examine constitutionality of executive or legislative acts.
- **Constitutional Morality** – Adherence to constitutional values and spirit by institutions beyond legal text.

9) INDIA'S INTEGRATION WITH GLOBAL SUPPLY CHAIN

(GS-II Bilateral, Regional and Global Groupings and Agreements involving India and/or affecting India's interests. AND GS-III Effects of Liberalization on the Economy, Changes in Industrial Policy and their Effects on Industrial Growth.)

Background

India is actively pursuing **Free Trade Agreements (FTAs)** with key partners like the United States and the European Union, signalling a renewed commitment to global economic integration. However, to truly embed itself into global value chains (GVCs), India must move beyond FTA negotiations and address domestic trade barriers—specifically, high tariffs and restrictive non-tariff barriers (NTBs) like Quality Control Orders (QCOs).

The Current Trade Landscape

US-India Relations: Despite ongoing dialogue, the U.S. maintains a 50% tariff on key Indian exports, such as shrimp from Andhra Pradesh, causing significant economic strain.

EU-India Relations: FTA talks with the EU show positive momentum, with both sides aiming to conclude an agreement by the end of the year.

Key Challenges: Tariffs and Non-Tariff Barriers

- **High Tariffs:** Elevate production costs and reduce the competitiveness of Indian exports, which hinder integration into GVCs by making intermediate goods more expensive.
- **Proliferation of QCOs:** QCOs which were officially intended to ensure product quality and consumer safety, sometimes in reality they function as de facto trade barriers, increasing compliance costs and import restrictions.
- **As of March, 187 QCOs cover 769 products, including steel, furniture, helmets, and water bottles.**
- **Negative Consequences:**
 - **Reduced Competitiveness:** Raises input costs for MSMEs and sectors like textiles.
 - **Rent-Seeking:** Encourages lobbying and distorts market mechanisms.

Arguments for Trade Liberalization

- **Global Supply Chain Integration:** Firms require transparent, predictable, and efficient trade regimes to participate in GVCs.
- **Reciprocity:** India's ability to counter foreign NTBs (e.g., environmental or labour standards) is strengthened by adopting a more open domestic trade policy.
- **Market Efficiency:** Consumer preferences and competition, rather than excessive regulation, should drive product quality.
- **Boosting Manufacturing:** Simplifying trade regulations supports the "Make in India" initiative and enhances India's appeal as a manufacturing hub.

Way Forward: Policy Reforms

- **Rationalize Tariffs:** Simplify and lower customs duties, particularly on intermediate goods.
- **Streamline QCOs:** Ensure they serve genuine quality objectives without acting as trade barriers.
- **Enhance Regulatory Transparency:** Publish clear criteria and timelines for QCO implementation.
- **Support MSMEs:** Offer compliance assistance and promote international standard alignment (e.g., ISO).
- **Strengthen Institutional Oversight:** Empower the NITI Aayog committee on non-financial regulatory reforms, led by Rajiv Gauba, to systematically review and rationalize NTBs.

Conclusion

India stands at a critical juncture where strategic trade liberalization can unlock its potential as a global manufacturing and export hub. By lowering tariffs, rationalizing QCOs, and fostering a predictable trade environment, India can strengthen its position in global supply chains, support MSMEs, and achieve sustainable economic growth.

KEY WORDS

- **Global Value Chains (GVCs)** – International production networks where different stages of production are spread across countries.
- **Free Trade Agreement (FTA)** – Pact between countries to reduce tariffs and trade barriers to promote cross-border commerce.
- **Quality Control Orders (QCOs)** – Standards ensuring product quality but often functioning as non-tariff trade barriers.
- **Make in India** – Flagship program to boost indigenous manufacturing and attract investment.

10) INTEGRATING CLIMATE AND HEALTH: A GOVERNANCE MODEL FROM INDIA'S WELFARE SCHEMES

(GS-II Issues Relating to Development and Management of Social Sector/Services relating to Health, Education, Human Resources. GS-III Conservation, Environmental Pollution and Degradation, Environmental Impact Assessment.)

Introduction

Climate change and public health are deeply interconnected, with environmental degradation amplifying disease risks. India's welfare schemes exemplify how social policy can deliver simultaneous health and climate co-benefits, offering a replicable governance model for the Global South.

India's Welfare Schemes as a Model for Synergistic Action

India's intersectoral programmes demonstrate that non-health interventions can yield significant health and climate co-benefits.

| Scheme | Primary Objective | Health Co-benefits | Climate/Environmental Co-benefits |
|---|---------------------------|---|---|
| PM Poshan Shakti Nirman | Child Nutrition | Addresses malnutrition | Promotes climate-resilient crops (millets) |
| Swachh Bharat Abhiyan | Sanitation | Reduces water-borne diseases; improves dignity | Improves environmental sustainability |
| MGNREGA | Rural Employment | Improves livelihoods | Restores degraded ecosystems (water conservation, etc.) |
| Pradhan Mantri Ujjwala Yojana (PMUY) | Clean Cooking Fuel Access | Reduces household air pollution & respiratory illnesses | Cuts carbon emissions |

Key Success Factors (Lessons for Policy)

- **Strong Political Leadership:** Direct high-level involvement has ensured cross-ministerial cooperation and public attention. Framing climate action as a health emergency can command wider support.
- **Community Engagement & Cultural Anchoring:** Leveraging cultural symbols (e.g., Gandhi for cleanliness) and involving local institutions (Parent-Teacher Associations for PM POSHAN) built grassroots ownership.
- **Leveraging Existing Institutions:** Instead of creating new structures, schemes successfully used established platforms like ASHAs, Self-Help Groups (SHGs), and Panchayati Raj Institutions, making implementation more efficient.

Challenges in Implementation

- **Siloed Administration:** Divergent mandates of different government departments hinder integrated policy outcomes.
- **Structural Inequities:** Deep-rooted differences within social, economic, and institutional systems that prevent fair and equal access to the benefits and intended results of policies. Example: High LPG refill costs under PMUY due to business interests outweighing user needs.
- **Social & Cultural Barriers:** Sustained behaviour change requires continuous reinforcement beyond initial access.

Way Forward

A Proposed Framework for Institutionalised Climate-Health Governance:

- **Strategic Prioritisation:** Frame climate policies in terms of immediate health benefits (e.g., clean air for lungs) rather than abstract future risks to garner public and political support.
- **Procedural Integration:** Mandate Health Impact Assessments (HIAs) for all climate-relevant policies (energy, transport, agriculture), similar to environmental clearances.
- **Participatory Implementation:** Empower local health workers (ASHAs) and community leaders to become climate advocates by linking environmental changes to tangible health outcomes in their communities.

Conclusion

India faces a clear choice: continue tackling climate and health as separate issues with limited success, or leverage the institutional wisdom of its welfare schemes to pioneer a "whole-of-society" approach. By treating these challenges as interconnected and adopting an integrated governance model, India can not only improve domestic well-being but also emerge as a global leader in sustainable development.

KEY WORDS

- **Climate-Health Governance** – Integrated policy linking environmental protection with public-health outcomes.
- **Health Impact Assessment (HIA)** – Evaluating health effects of policies, similar to Environmental Impact Assessment (EIA).

11) India-Japan Strategic Partnership: A Next-Gen Upgrade

(GS-II India and its Neighbourhood- Relations; Bilateral, Regional and Global Groupings and Agreements involving India and/or affecting India's interests.)

Background

Prime Minister Narendra Modi's visit to Japan for the 15th Annual Summit marked a significant step in strengthening the India-Japan Special Strategic and Global Partnership. The summit focused on modernizing bilateral cooperation with a "Next-Gen" vision, spanning economic, technological, and security domains, while reinforcing stability amidst geopolitical shifts.

Key Outcomes of the Summit

- **Economic and Investment Cooperation**

- ✓ Japanese businesses raised investment targets in India to ¥10 trillion approximately \$68 billion.
- ✓ Approximately 170 MoUs were signed between Japanese and Indian companies.
- ✓ Enhanced collaboration in semiconductor manufacturing, with Japanese technology aiding India in building resilient supply chains, particularly in light of Chinese restrictions on rare earth exports.



- **Strategic and Security Upgrades**

- ✓ The 2008 Security Partnership was updated to include:
 - An annual NSA-level dialogue.
 - Enhanced cooperation in the Quad and Indo-Pacific.
 - Collaboration on UN Security Council reforms.
- ✓ Strong condemnation of:
 - Cross-border terrorism (implicitly referencing Pakistan).
 - North Korea's missile tests and nuclear program.

- **Technological and Infrastructure Collaboration**

- ✓ High-Speed Rail (Bullet Train) Project: Showcased as a symbol of Indo-Japanese technological collaboration.
- ✓ 2035 Vision Statement: Outlined eight areas of cooperation, including Economic security, Green technology transition, Mobility and connectivity.

- **Next-Gen State-Prefecture Partnership**

- ✓ Aimed at strengthening grassroots ties and boosting direct flight connectivity.

Geopolitical Significance

- **Strategic Messaging:** The visit highlighted the stability of India-Japan relations amid global uncertainties, such as U.S. trade tariffs and regional tensions.

- **Balancing China:** Enhanced collaboration between the two, particularly in economic trade and supply chain resilience, can help reduce over reliance on China and serve as a counterbalance to Chinese hegemony.
- **Securing the Indo-Pacific:** Joint advocacy of a Free and Open Indo-Pacific (FOIP) framework to ensure maritime security, freedom of navigation, and rule-based order. Japan's infrastructure push (Quality Infrastructure Initiative) complements India's Act East Policy, linking South and Southeast Asia.
- **Shared democratic values** and commitment to a rules-based international order anchor the partnership.

Challenges

- **Divergent Strategic Orientations:** Japan's close alliance with the U.S. contrasts with India's pursuit of strategic autonomy, reflected in differing positions on Russia and global sanctions.
- **Implementation and Project Delays:** Translating ambitious commitments and MoUs into tangible outcomes faces hurdles like regulatory friction, land acquisition issues, and slow execution—visible in projects such as the Mumbai–Ahmedabad bullet train.
- **Technology Transfer Barriers:** Differences in standards, intellectual property regimes, and regulatory frameworks hinder smooth collaboration in sectors like semiconductors, green technology, and digital trade.

Way Forward

- **Economic and Supply Chain Integration:** Through resilient supply chains, innovation ecosystems, and timely implementation of infrastructure projects.
- **Technology and Innovation Collaboration:** Foster joint research, harmonize standards, and create enabling conditions for technology transfer and capacity building in critical sectors.
- **Cultural and People-to-People Diplomacy:** Expand academic exchanges, skill mobility, and cultural outreach using shared heritage such as Buddhism and Yoga.
- **Third-Country Cooperation:** Revive and operationalize initiatives like the Asia–Africa Growth Corridor (AAGC) for infrastructure and capacity building in Africa, Southeast Asia, and the Indian Ocean region.

Conclusion

The India-Japan partnership has evolved into a comprehensive and strategic alliance with a clear focus on future-oriented collaboration. By aligning their economic, technological, and security interests, both nations are well-positioned to contribute to regional stability and global growth. The summit reaffirmed their shared commitment to a rules-based international order and a peaceful, prosperous Indo-Pacific.

KEY WORDS

- **The India–Japan Special Strategic and Global Partnership** – Comprehensive cooperation in economy, technology, and security.
- **Free and Open Indo-Pacific (FOIP)** – Vision promoting maritime freedom, connectivity, and rule-based order.
- **Asia–Africa Growth Corridor (AAGC)** – Indo-Japanese initiative for development cooperation in Africa and the Indo-Pacific.
- **Quad** – Strategic grouping of India, Japan, USA, and Australia for a free and open Indo-Pacific.
- **Quality Infrastructure Initiative (QII)** – Japan’s model for transparent and sustainable infrastructure finance.

UPSC PYQ

‘The time has come for India and Japan to build a strong contemporary relationship, one involving global and strategic partnership that will have a great significance for Asia and the world as a whole.’ Comment. [2019]

12) INDIA'S MONETARY POLICY FRAMEWORK: BALANCING INFLATION CONTROL AND ECONOMIC GROWTH

(GS-III Indian Economy and issues relating to Planning, Mobilization of Resources, Growth, Development and Employment.)

Introduction

The Reserve Bank of India (RBI) has initiated a public discussion paper to review its inflation-targeting framework ahead of the mandatory five-year review in March 2026. The current framework, established under the RBI Act, 1934 (as mandated by the Finance act, 2016), mandates the central bank to maintain consumer price index (CPI) inflation at 4% ($\pm 2\%$).

Key Issues Under Review

- **Headline vs. Core Inflation Targeting:** Debate over whether to target headline inflation (with possible tweaks to CPI weightings) or core inflation (excluding volatile food and fuel prices).
- **Tolerance Band:** Whether the existing $\pm 2\%$ tolerance band should be narrowed.
- **Point Target vs. Range:** Whether to retain the 4% point target or shift to a flexible range.
- **Escape Clauses:** Need for provisions to address situations where inflation breaches targets due to external shocks (e.g., supply-side constraints).

Performance of the Current Framework

Monetary Policy Committee (MPC) has generally performed well, ensuring transparency through:

- Detailed post-meeting statements.
- Publication of MPC minutes.

Challenges:

- Between December 2019 and August 2023, inflation exceeded 6% in 26 out of 44 months.
- Post-COVID, the RBI termed inflation as "transitory," attributing it to supply-side issues beyond monetary policy's scope.

Arguments for Prioritizing Price Stability

- **Impact on Vulnerable Groups:** Inflation disproportionately affects the poor and unorganized sectors.
- **Central Bank's Role:** An independent RBI can take objective interest rate decisions, free from political pressures.
- **Fiscal-Monetary Coordination:** While fiscal policy plays a key role, the RBI must stick to its mandate of price stability.

Proposed Reforms

- **Narrow the Tolerance Band:** Reduce the $\pm 2\%$ band to reinforce commitment to price stability.
- **Retain Point Target:** Avoid shifting to a range to prevent dilution of the inflation-control mandate.
- **Enhanced Transparency:**
 - Make RBI's failure reports to the government (under Section 45ZN of RBI, Act 1934) public.
 - Parliamentary scrutiny of these reports by the Finance Standing Committee.

Challenges

- **Structural Inflation Pressures:** Persistent food and fuel inflation continue to challenge the inflation target framework.
- **Global Economic Uncertainties:** Geopolitical tensions and supply chain disruptions create external inflationary pressures.
- **Fiscal-Monetary Policy Coordination:** Lack of synchronization between government spending and monetary policy objectives.
- **Transparency Issues:** Non-disclosure of RBI's failure reports to Parliament undermines accountability.

Way Forward

- **Strengthen Institutional Framework:**
 - Narrow the inflation tolerance band to enhance target credibility.
 - Maintain the 4% point target to ensure policy focus
- **Enhance Policy Coordination:**
 - Establish formal mechanisms for fiscal-monetary policy coordination

- Develop better tools to address supply-side inflation
- **Improve Transparency and Accountability:**
 - Mandate public disclosure of RBI's failure reports under Section 45ZN
 - Introduce parliamentary scrutiny through the Finance Standing Committee
- **Build Resilience:**
 - Develop contingency plans for handling external shocks
 - Strengthen data collection systems, particularly for rural inflation

Conclusion

The review of India's inflation targeting framework presents an opportunity to strengthen the central bank's ability to maintain price stability while acknowledging the challenges of a rapidly evolving global economy. By enhancing transparency, improving policy coordination, and building institutional resilience, India can create a more robust monetary policy framework that serves both price stability and broader economic objectives.

KEY WORDS

- **Monetary Policy Committee (MPC)** – Six-member RBI body deciding repo-rate to maintain inflation target ($4 \pm 2\%$).
- **Core Inflation** – Inflation rate excluding food and fuel, showing underlying price trends.
- **Headline Inflation** – Overall inflation measured by Consumer Price Index (CPI).
- **Tolerance Band** – Permissible inflation range around RBI's target for policy flexibility.
- **Section 45ZN, RBI Act 1934** – Mandates RBI to explain causes and remedies if inflation exceeds target for three quarters.
- **Fiscal-Monetary Coordination** – Synchronization of government spending and RBI policy for macro stability.
- **Financial Inclusion** – Ensuring affordable access to financial services for all sections, esp. vulnerable groups.

UPSC PYQ

What are the causes of persistent high food inflation in India? Comment on the effectiveness of the monetary policy of the RBI to control this type of inflation. [2024]

13) SOCIAL SECURITY FOR INDIA'S UNORGANISED WORKFORCE: CHALLENGES AND POLICY RESPONSES

(GS-II Government Policies and Interventions for Development in various sectors and Issues arising out of their Design and Implementation.)

Introduction

The unorganised sector forms the backbone of India's economy. More than 90% of India's workforce is engaged in the unorganised sector, contributing around 50% of the Gross Domestic Product (GDP). Despite this massive contribution, workers of this sector remain marginalised, lacking job security, social protection, and fair wages.

Recognising this, the Government of India has taken various legislative and policy measures — notably, the Unorganised Workers' Social Security Act, 2008 and the Code on Social Security, 2020.

Who is an Unorganised Worker?

According to the Unorganised Workers' Social Security Act, 2008,

- An unorganised worker means a home-based worker, self-employed worker, or a wage worker in the unorganised sector, and includes a worker in the organised sector who is not covered by any of the Acts mentioned in Schedule II.

Categories (Ministry of Labour classification)

- Occupational Unorganised Labourers – agricultural labourers, sharecroppers, fishermen, construction workers, weavers, artisans, toddy tappers, brick kiln workers, etc.
- Nature of Employment-based Labourers – bonded labourers, migrant workers, contract and casual workers.
- Especially Distressed Categories – scavengers, head-load carriers, drivers, loaders, etc.
- Service Categories – domestic workers, vendors, vegetable sellers, fruit hawkers, and newspaper vendors.

Major Issues Faced by Unorganised Workers

| Challenge | Explanation |
|--|---|
| Low Wages & Income Insecurity | "Equal pay for equal work" rarely applies. Workers lack allowances, bonuses, or social benefits. |
| No Job Security | Employment is irregular, casual, and seasonal. Workers can be dismissed without notice or compensation. |
| Poor Working Conditions | Absence of sanitation, ventilation, and safety norms; lack of access to health, education, and nutrition. |

| | |
|--|--|
| Exploitation & Discrimination | Common issues include gender bias, ill-treatment, and unsafe work environments. |
| Traditional & Obsolete Technology | Workers lack access to modern tools, reducing productivity and competitiveness. |
| Poverty and Deprivation | Economic vulnerability pushes many into informal work and keeps them trapped below the poverty line. |

Key Government Measures & Schemes

Legislative Measures:

- **Unorganised Workers' Social Security Act, 2008**
 - Provided for social security and welfare of unorganised workers.
 - Empowered the Government to formulate schemes relating to life, health, old-age, maternity benefits, etc.
- **Code on Social Security, 2020**
 - Consolidates 9 existing social security laws into one comprehensive code.
 - Extends coverage to gig and platform workers.
 - Aims to ensure that the condition of labourers improves through additional social benefits beyond basic wages.

Social Security Schemes

| Scheme | Objective & Benefits |
|--|---|
| 1. Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY) | Life insurance cover of ₹2 lakh for death due to any reason; annual premium ₹436. |
| 2. Pradhan Mantri Suraksha Bima Yojana (PMSBY) | Accident insurance: ₹2 lakh for death or total disability, ₹1 lakh for partial disability; annual premium ₹20. |
| 3. Pradhan Mantri Shram Yogi Maan-Dhan (PM-SYM) | Voluntary pension scheme for unorganised workers aged 18-40; monthly pension of ₹3,000 after age 60; workers contribute ₹55-₹200 per month. |

| | |
|---|--|
| 4. Atal Pension Yojana (APY) | Pension scheme encouraging savings for old age; corpus ₹65,974 crore with over 7.65 crore subscribers (April 2025). |
| 5. Ayushman Bharat – Pradhan Mantri Jan Arogya Yojana (AB-PMJAY) | Health insurance up to ₹5 lakh per family per year for 6 crore senior citizens (70+) and 4.5 crore families. |
| 6. PM SVANidhi Yojana | Micro-credit up to ₹30,000 for street vendors to restart businesses post-COVID-19. 68.4 lakh vendors benefitted as of June 2025. |
| 7. National Safai Karamcharis Finance & Development Corporation (NSKFDC) | Monthly stipend of ₹3,000 and rehabilitation assistance for manual scavengers. |
| 8. Public Distribution System (PDS) | Ensures subsidised food grains for poor and migrant workers under One Nation One Ration Card (ONORC). |
| 9. Health Insurance Scheme for Weavers | ₹15,000 assistance package covering diseases and pre-existing conditions. |

Persistent Challenges

- **Coverage Gaps:** Many workers remain outside social security due to lack of awareness, eligibility barriers, or poor implementation.
- **Financing Constraints:** Limited fiscal resources restrict universal coverage.
- **Administrative Fragmentation:** Overlaps between ministries and schemes cause inefficiency.
- **Informal Employer–Employee Relationship:** Makes benefit delivery difficult.
- **Digital Divide:** Workers in rural and illiterate communities struggle with online registration (e.g., e-Shram portal).

Achievements and Progress

- 30.86 crore workers registered on e-Shram portal, over 53% women.
- 2.37 million artisans under PM Vishwakarma Yojana.

- India's social protection coverage rose from 24.4% (2017–18) to 28.4% (2024–25) — a step towards universal protection.
- The government's initiatives align with PM Modi's vision of “**Sabka Saath, Sabka Vikas, Sabka Vishwas, Sabka Prayas.**”

Way Forward

To build a robust and inclusive social security architecture for unorganised workers:

- **Universal Registration:** Unified worker registry linked to Aadhaar for easy identification and portability.
- **Portable Benefits:** Ensure social security benefits follow workers across states and jobs.
- **Simplified Contribution Mechanisms:** Flexible systems aligned with irregular income patterns.
- **Awareness Campaigns:** Mass sensitisation through local bodies and digital literacy programs.
- **Public-Private Partnership (PPP):** Involving employers, NGOs, and cooperatives for funding and outreach.
- **Convergence of Schemes:** Integrate e-Shram, PM-SYM (Pradhan Mantri Shram Yogi Maan-dhan), PMJJBY (Pradhan Mantri Jeevan Jyoti Beema Yojana), PMSBY (Pradhan Mantri Suraksha Bima Yojana) under one digital umbrella.
- **Skill Development & Formalisation:** Promote skilling, entrepreneurship, and gradual transition to formal economy.

Conclusion

The unorganised sector remains India's economic foundation but social vulnerability. Ensuring their welfare is essential for achieving SDG 1 (No Poverty), SDG 3 (Good Health), and SDG 8 (Decent Work and Economic Growth). As Prime Minister Narendra Modi stated, “To bring about change in the status of the poor, we must think big and act at a large scale.” The path forward lies in inclusive growth, bridging the gap between organised and unorganised workers through universal social security and digital empowerment.

KEY WORDS

- **Code on Social Security, 2020** – Consolidates nine labour laws to extend social security to gig, platform, and unorganised workers.
- **Portable Benefits** – Social-security benefits that move with workers across jobs and states.
- **Skill Development Mission** – Program to enhance employability through vocational training.

UPSC PYQ

Performance of welfare schemes that are implemented for vulnerable sections is not so effective due to absence of their awareness and active involvement at all stages of policy process – Discuss. [2019]

14) GST 2.0 REFORMS: A COMPREHENSIVE ANALYSIS

(GS-III Indian Economy and issues relating to Planning, Mobilization of Resources, Growth, Development and Employment.)

Background

GST 2.0 was launched after the 56th meeting of the GST Council on September 3, 2025. It is a major overhaul targeting simplification, predictability, and citizen-centric reforms in India's indirect tax regime, aligning with international best practices and "Viksit Bharat 2047" aspirations.

Key Achievements of GST (So Far)

- **Creation of a Unified Market:** Eliminated cascading taxes and inter-state checkpoints, facilitating seamless trade.
- **Boost to Formalization:** Increased **tax base from ~65 lakh to ~1.4 crore registered taxpayers.**
- **Enhanced Compliance:** Automated processes via the **GST Network (GSTN) portal.**
- **Logistical Efficiency:** The E-Way Bill system simplified the movement of goods.

Key Features of GST 2.0

- **Two-Slab Structure:** The old four slabs (5%, 12%, 18%, 28%) replaced by **two main rates:**
 - 5% (Merit Rate) for essential goods/services
 - 18% (Standard Rate) for others
 - 40% (Demerit/Sin Goods) for luxury and harmful products.
- **Exemptions and Rate Reductions:**
 - Complete GST exemption for life and health insurance, many medicines, and select essential food items (UHT milk, paneer, bread, etc.).
 - Daily use goods (toothpaste, soap), kitchenware, and small appliances now at 5%.
 - Public transport, cement, key construction materials, electric vehicles, and renewables see lower rates (e.g., 12%/18% → 5%/18%).
 - 33 life-saving drugs moved to nil rate; several agriculture and manufacturing inputs see reductions
- **Administrative Reforms:**
 - Simplified, faster GST registration—3-day onboarding for low-risk firms (covers ~96% of new registrations).
 - Automated GST refund system for prompt settlement, crucial for exporters and MSMEs.
 - Full operationalisation of GST Appellate Tribunal (GSTAT) to streamline dispute resolution and case backlogs.
- **Correction of Inverted Duty Structure:**

- Sectors like housing, textiles, renewables, and MSMEs have benefitted from removal of anomalies—promotes Make in India and sectoral competitiveness

Rationale Behind the Reform

- Addressed rate anomalies and inverted duty structures to enhance manufacturing competitiveness.
- Ensured fiscal stability while reducing the burden on households.
- Aimed to boost demand and domestic consumption, especially after COVID-19 disruptions.
- Enhanced trust between Centre and States through clear revenue-sharing and compensation mechanisms.
- Made India's tax system more globally competitive and investor-friendly.
- Sought to make GST more citizen- and business-friendly by reducing compliance burden and litigation.
- Removed cascading effects of taxes to promote efficiency and transparency.
- Improved ease of doing business and overall tax administration.
- Helped counter global economic uncertainties by stimulating domestic demand.

Economic and Social Impact

- **Consumers:** Lower prices on common goods (FMCG, appliances), health insurance, and medicine; enhanced purchasing power; protection for low- and middle-income families.
- **MSMEs & Industry:** Reduced compliance and working capital costs; input credit streamlining; easier market expansion and export promotion; low tax on equipment and machinery.
- **Agriculture:** Reduced GST on farm machinery/fertilizers supports productivity and rural incomes.
- **Revenue and Fiscal Impact:** Potential short-term revenue strain is offset by expected higher compliance, expansion of tax base, and robust consumption growth.
- **Governance:** GSTAT clears institutional bottlenecks, while technology integration (AI-based checks, HSN mapping) enhances efficiency and audit quality.

Concerns / Challenges

- **Revenue implications:** Estimated annual revenue loss of ₹48,000–₹50,000 crore (short-term).
- **Implementation gaps:** Need for robust GSTN systems and administrative preparedness.
- **State fiscal stress:** With reduced rates, states must rely on own revenues to offset losses.
- Classification disputes and compliance adaptation may persist initially.

Way Forward

- Effective implementation and monitoring of GSTN systems.

- Capacity-building for small businesses to comply with simplified returns.
- Regular review mechanism for rate rationalisation to maintain fiscal balance.
- Ensure transparency and communication between Centre & States to sustain trust

Conclusion

GST 2.0 represents a critical evolutionary step from the initial implementation phase to a mature, efficient, and stable indirect tax system. By addressing structural flaws, simplifying compliance, and expanding the base, it can truly unlock the economic benefits envisioned in 2017, boost India's revenue capacity, and strengthen its fiscal federalism.

KEY WORDS

- **Goods and Services Tax (GST)** – A unified indirect tax replacing multiple levies, promoting “One Nation, One Tax.”
- **GST 2.0** – Reform phase emphasizing simplification and rationalization of India's indirect tax regime.
- **Viksit Bharat 2047** – Government vision for a developed India by 2047.
- **Citizen-Centric Governance** – Administrative approach focused on responsiveness and service delivery to citizens

UPSC PYQ

Discussion the rationale for introducing Good and services tax in India. Bring out critically the reasons for delay in roll out for its regime. [2013]

15) SCO SUMMIT 2025 — INDIA'S ROLE AND SIGNIFICANCE

(GS-II Bilateral, Regional & Global Groupings & Agreements involving India &/or affecting India's interests.)

Context

In a global order marked by geopolitical fragmentation, trade wars, and tariff tensions, the 25th SCO Heads of State Council Meeting (2025) at Tianjin, China, highlighted renewed calls for multilateralism and a multipolar world. For India, attending the summit amid U.S. tariffs over Russian oil imports and a stalled trade deal reflected a strategic balancing effort in its foreign policy.

About

- SCO is a permanent intergovernmental international organisation founded on **June 15, 2001 in Shanghai.**

- **Members (10):** China, Russia, Kazakhstan, Kyrgyzstan, Tajikistan, Uzbekistan, India, Pakistan, Iran, Belarus (joined 2024).
- Headquarters: Beijing (Secretariat); RATS – Tashkent.
- **Objectives**
 - Strengthen mutual confidence, friendship, and regional stability.
 - Cooperate in security, economy, culture, technology, and environment.
 - Combat terrorism, separatism, and extremism (“Three Evils”).
 - Promote a democratic, just, and rational international order.
- **Guiding Principle:** Operates based on the "Shanghai spirit," which emphasizes mutual trust, mutual benefit, equality, mutual consultation, and respect for cultural diversity
- **Structure & Functioning:**
 - Heads of State Council (HSC): Annual; highest decision body.
 - Heads of Government Council (HGC): Annual; economic priorities & budget.
 - Permanent bodies: Secretariat (Beijing) & Regional Anti-Terrorist Structure (RATS, Tashkent).
 - Leadership: Secretary-General & RATS Exec Director – 3 years.

Evolution of SCO

| Year | Development |
|---------|---|
| 1996 | Originated as Shanghai Five (China, Russia, Kazakhstan, Kyrgyzstan, Tajikistan) to address border security post-USSR breakup. |
| 2001 | Uzbekistan joins → SCO formally established. |
| 2002-03 | SCO Charter adopted (St. Petersburg); Agreements on long term 20-year Trade & Economic Cooperation Programme for multi-lateral trade has been signed. |
| 2006 | Plan to combat drug trafficking and terror financing. |
| 2017 | India & Pakistan admitted as full members (Astana Summit). |
| 2023-24 | Iran (2023) and Belarus (2024) join → SCO expands to 10 members. |

Key Outcomes of the 2025 SCO Summit

- **Tianjin Declaration:** Outlined a shared vision for a "just, equitable and representative multipolar world order" and reaffirmed the central role of the UN.
- **SCO Development Strategy until 2035:** A key document adopted to define the organisation's long-term priorities and directions.
- **New Security Agreements:**
 - Agreement on the Universal Centre for Countering Security Challenges and Threats.

- Agreement on the SCO Anti-Drug Centre.
- **Condemnation of Terrorism:** The joint declaration strongly condemned specific terrorist attacks, including the Pahalgam attack in India (April 2025) and attacks in Pakistan, signalling a significant diplomatic outcome.
- **India's Proposal:** Prime Minister Narendra Modi proposed the creation of a 'Civilisational Dialogue Forum' to enhance people-to-people ties and showcase the cultural heritage of member states.

Significance for India's Interests

- **Security & Counter-terrorism:** Access to RATS intelligence which is crucial for combating regional terror networks. Also, a platform to press for action against cross-border terrorism and groups targeting India.
- **Connectivity:** The SCO is a crucial multilateral platform for India to advance its "Connect Central Asia" policy. And Eurasian integration.
- **Balancing Great Power Politics:** Counterweight to China's dominance within Eurasia. Supported by Russia, which views India as a stabilising and balancing partner in the grouping. Strengthens India-Russia coordination amid changing global alignments.

Challenges for India in SCO

- **Border tensions with China:** Ongoing LAC disputes strain regional trust and limit cooperation.
- **Pakistan factor:** Bilateral hostility constrains security and counterterrorism collaboration.
- **BRI dominance:** China's Belt and Road Initiative shape the SCO agenda; India remains its only major critic.
- **Geopolitical divergence:** China–Russia alignment contrasts with India's growing ties with the U.S. and QUAD partners.

Way Forward

India should pursue selective, interest-based engagement within the SCO — strengthening counter-terrorism coordination, ensuring border stability, advancing connectivity aligned with national priorities, and leveraging the forum to amplify Global South and multipolar leadership.

KEY WORDS

- **The Shanghai Cooperation Organisation (SCO)** – A Eurasian political, economic, and security alliance promoting regional cooperation.
- **Regional Anti-Terrorist Structure (RATS)** – SCO's body based in Tashkent coordinating counter-terrorism intelligence.
- **Tianjin Declaration (2025)** – SCO document affirming support for a just, multipolar world order and UN centrality.

UPSC PYQ

Critically examine the aims and objectives of SCO. What importance does it hold for India? **[2021]**

MODEL QUESTIONS

- 1) Fusion energy is considered the next frontier in clean power generation. Examine India's fusion power plans and discuss their implications for the country's overall development.
- 2) "Healthcare is not an expenditure but an investment in human capital and productivity." Discuss in the Indian context.
- 3) India's outdated definition of 'urban' has led to invisible urbanisation and governance gaps.
- 4) Examine whether digitalisation of payments and financial services has led to substantive formalisation of the Indian economy.
- 5) "Cloudbursts in the Indian Himalayan Region highlight the need to move from relief-centric to resilience-oriented disaster management." Discuss the challenges and suggest measures to enhance preparedness in vulnerable areas.
- 6) "Plastic pollution is no longer an environmental issue alone but a developmental and health challenge." Discuss.
- 7) Discuss the reasons behind the persistence of stubble burning in northern India despite policy interventions.
- 8) Discuss the constitutional provisions regarding the Governor's assent to state bills. How does the delay in granting assent affect the federal balance and governance in states?
- 9) India's ability to integrate with global value chains depends more on domestic trade reforms than on Free Trade Agreements. Discuss.
- 10) "Framing climate action as a health emergency can transform political and public engagement." In the light of India's developmental experience, evaluate how integrating health outcomes into climate policy can accelerate sustainable development.
- 11) "The India-Japan partnership has evolved from economic cooperation to a strategic and technological alliance." Discuss in light of recent developments during the 15th Annual Summit.
- 12) India's inflation-targeting framework has enhanced monetary policy credibility but faces challenges in balancing price stability and growth." Discuss in light of the ongoing review of the RBI's monetary policy framework.
- 13) "The unorganised sector is the backbone of India's economy but remains outside the reach of adequate social protection." Discuss the major challenges in ensuring social security for unorganised workers and evaluate the policy measures undertaken by the Government of India.
- 14) "GST 2.0 marks a shift from consolidation to simplification in India's indirect tax regime." Discuss the major features and expected impact of the recent reforms on India's economy.
- 15) Critically analyse the opportunities and challenges for India in leveraging the Shanghai Cooperation Organisation (SCO) for regional security and counter-terrorism.