

NEWS TODAY

A World of Debt Report 2024: A growing burden to global prosperity released by UN Trade and Development (UNCTAD)

Report highlights **alarming surge in global public debt** and proposes a plan to **revamp global financial system** to tackle current debt crisis.

➤ **Public debt refers to general government domestic and external debt.**

Key highlights of Report

- **Debt surge:** In 2023, global public debt reached **historic peak of \$97 trillion**.
- **Drivers:** Cascading crises and sluggish and uneven performance of global economy.
- **Regional Disparity:** Public debt in **developing countries** (accounting for 30% of global total) is **rising at twice the rate** of developed countries.
 - ⊕ In 2023, **India's public debt** reached **US\$ 2.9 trillion**, accounting for **82.7% as a share of GDP**.

Implications of high public debt:

- **High fiscal burden:** More than half of developing countries allocate at least 8% of government revenues to interest payments.
- **Decreased developmental spending:** 3.3 billion individuals reside in nations where interest payments exceed spending on education and health combined.
- **Climate inaction:** Interest outweighs climate investments in emerging and developing countries.

Roadmap to finance sustainable development:

- **Inclusive International Financial Architecture** with increased participation of developing countries in its governance.
- **Provide greater liquidity in times of crisis** expanding contingency finance through IMF instruments.
- **Scaling up affordable long-term financing** through transformation and expansion of Multilateral Development Banks.

Initiatives to solve debt crisis:

- **Heavily Indebted Poor Countries (HIPC)** Initiative by IMF and World Bank
- **Debt Management and Financial Analysis System (DMFAS)** programme of UNCTAD.
- **Global Sovereign Debt Roundtable (GSDR):** Launched in February 2023 by the IMF in coordination with the World Bank and India's G20 presidency

IIT Madras researchers have shown formation of nanoparticles from common minerals

Researchers have shown that **common minerals** (river sand, ruby and alumina) can be **broken instantly by charged water microdroplets** to make **corresponding nanoparticles**.

- **Microdroplets** are really tiny water droplet around 10µm in size and are known to **enhance chemical reactions**.
 - ⊕ In nature, microdroplets are generated by crashing ocean waves and atmospheric processes.
- **Enhancement in process of nanoparticle formation** by microdroplets may:
 - ⊕ **Provide transformative soil formation technique** by accelerating natural weathering process.
 - ⊕ **Enable efficient nanoparticle production** with broad industrial applications.
 - ⊕ **Enhance growth of crops** such as rice and wheat where mineral nanoparticles (like silica) are crucial.

Nanoparticles

- Particles with **size ranging from 1 to 100 nanometers** are **nanoparticles**.
- Their **properties** depend on their shape, size, surface characteristics and inner structure.
- Nanoparticles can be encountered as **aerosols** (solids or liquids in air), **suspensions** (solids in liquids) or as **emulsions** (liquids in liquids).

Formation of Nanoparticles

- They may be formed **either naturally (erosion or weathering) or through human induced industrial and domestic activities** (cooking, manufacturing, transport etc.).
- There are **two approaches** in their manufacturing:
 - ⊕ **Top-down:** Breaking of a large particle into nanostructures.
 - ⊕ **Bottom-up:** Assembling small atoms or molecules into nanostructures.

Applications of Nanoparticles

- **Medical:** Targeted drug delivery, gene therapy, tissue engineering etc.
- **Industrial:** Ability to induce unique electrical, mechanical properties and create stronger, lighter, cleaner surfaces.
- **Food processing:** Placing anti-microbial agents and increase/decrease gas permeability in food packaging.
- **Environmental:** Air purification with ions, wastewater purification with nanobubbles or nanofiltration systems for heavy metals.
- **Electronics:** Printed electronics, including Carbon Nanotubes, etc.

Second Advance Estimates of 2023-24 of Area and Production of Horticultural Crops released

Key highlights of estimates released by Department of Agriculture and Farmers Welfare

- ▶ Horticultural production in 2023-24 has **decreased to 352.23 million tonnes** (by 0.91% as compared to 2022-23).
- ▶ **Increase in production of Fruits, Honey, Flowers, Plantation Crops, Spices and Aromatics & Medicinal Plants** whereas **decrease in Vegetables**.

About Horticulture Sector

- ▶ Horticulture is the art of production, utilisation and improvement of fruits and vegetables, spices and condiments, ornamental, plantation, medicinal and aromatic plants.
- ▶ It **contributes about 33% to agriculture Gross Value Added** to Indian economy.
- ▶ India is the **second largest producer of vegetables and fruits** in world after China.
- ▶ **Importance of Horticulture crops**
 - ⊕ Horticulture crops are **high-value crops**, have high productivity and require less irrigation, thus **increasing profitability of farmers**.
 - ⊕ **Rich source of nutrients**, vitamins, minerals, dietary fibres, etc.
 - ⊕ **Good source of foreign exchange** due to higher demand in international market.
 - ⊕ Horticultural produce **serves as raw material for various industries** like food processing, pharmaceutical etc.
- ▶ **Associated Challenges**
 - ⊕ **Outdated harvesting practices and inadequate cold chain infrastructure**, resulting in 4.6-15.9% wastage annually.
 - ⊕ **Lack of high-quality seedlings and rootstock**.
 - ⊕ **Climate change and persistent pests** lead to infestations and plant diseases, diminishing crop yield and quality.

Initiatives taken to promote Horticulture Sector

- ▶ **Mission for Integrated Development of Horticulture (MIDH)**, a Centrally Sponsored Scheme, **for holistic growth of horticulture sector** covering fruits, vegetables, root & tuber crops, mushrooms, etc.
- ▶ **Horticulture Cluster Development Programme** to leverage geographical specialisation and promote integrated and market-led development of horticulture clusters.

Global Groundwater Warming due to Climate Change: Study

A Nature Geosciences study has projected an **average rise of 2.1 degree Celsius in Groundwater temperature between 2000-2100 due to climate change**.

Implications of Groundwater Warming

- ▶ **Increased temperature reduces oxygen level in water**, leading to hypoxic condition impacting species growth, distribution etc.
- ▶ **Harmful algal blooms** owing to increase in soluble phosphorus.
- ▶ **Impact food and reproductive cycles** of temperature sensitive species, threatening biodiversity.
- ▶ **Increased growth of pathogens** can deteriorate water quality.
- ▶ Potential to sustainably **satisfy local heating demands**.

Status of Groundwater

- ▶ India has **largest area under groundwater irrigation in world**.
- ▶ As per Dynamic Groundwater Resource assessment 2022, **14% of assessed units are overexploited and 4% are critical**.
 - ⊕ **Overexploited**: Groundwater extraction exceeding annually replenishable groundwater recharge.
 - ⊕ **Critical**: Groundwater extraction is between 90-100 % of annual extractable resources available.
- ▶ Amount of **water in polar ice caps and glaciers is more than** amount of groundwater.
- ▶ Amount of **water in rivers and lakes is less than amount of groundwater**.

Importance of Groundwater

- ▶ Helps to **replenish and maintain levels of surface water**.
- ▶ **Provides drinking water** for nearly 50% of global population.
- ▶ Used in **food production, crop irrigation, industrial processes** like oil and gas, energy generation etc.

Initiatives taken for Groundwater Conservation in India

- ▶ **Atal Bhujal Yojana**, under Ministry of Jal Shakti, for sustainable groundwater management.
- ▶ **Groundwater Management and Regulation**, a Centre Sector Scheme, deals with aquifer mapping and monitoring of groundwater levels and quality.
- ▶ **National Aquifer Mapping Program** for sustainable aquifer management.

74 women elected to 18th Lok Sabha, accounting for 13.6% representation in Lok Sabha

Election of 74 women to 18th Lok Sabha (LS) is a **slight dip** in women representation as **78 women were elected to 17th LS (14.4% representation)**.

Status of women representation in Legislature

- **9.7%** of 797 women contestants **won in 18th LS** elections while in 17th LS elections, 10.74% of 726 women contestants won.
- Women's representation in LS **increased from 5% in first LS to its highest in 17th LS (14.4%)**.
- Presently, women members constitute **14.05% of Rajya Sabha members**.
- Globally, share of women in national parliaments is **26.9%**.

Significance of women representation:

- Women legislators **perform better in their constituencies** on economic indicators than their male counterparts.
- Accounting for around 50% population, legislative representation is **fundamental to political empowerment**.
- Women are **less likely to be criminal and corrupt**, more efficacious, and less vulnerable to political opportunism.

Challenges to women's legislative representation:

- **Societal Prejudices**, male dominated political structures, and family obligations.
- **Structural disadvantages**: Election campaigns are costly, time-consuming and are marred by inappropriate commenting, hate speeches, abusive threats and muscle power.
- **Internalised patriarchy**: Women themselves are often influenced by patriarchal societal norms.

Steps taken for increasing women political representation:

- **Nari Shakti Vandan Adhiniyam, 2023** (106th Amendment Act) to reserve one-third of seats for women in Lok Sabha and State Legislative Assemblies including Legislative Assembly of Delhi.
- The **73rd and 74th Constitutional Amendments** made reservation of 1/3rd seats in Panchayats and Municipalities for women.
- India pledged to **achieve SDG target 5.5**, which calls for women's full and effective participation at all levels of decision-making in politics and public life.

Special Category Status (SCS) demand by Bihar and Andhra Pradesh gained momentum after 2024 Lok Sabha Elections results

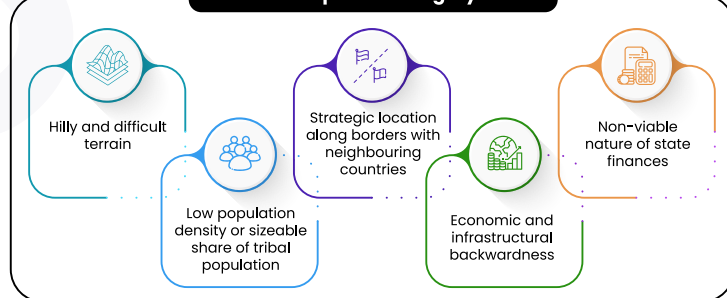
About SCS

- SCS is a **classification given by Centre** to assist in development of those states that face **geographical and socio-economic disadvantages**.
- It was **first introduced in 1969** on recommendations of **Fifth Finance Commission (FC)**.
- In 1969, **Jammu & Kashmir (J&K), Assam and Nagaland** were granted SCS.
 - ⊕ Later, Sikkim, Tripura etc. were given SCS.
- SCS States used to **receive grants based on Gadgil-Mukherjee formula**.
- **Constitution does not include any provision for categorisation** of any State in India as SCS state.
 - ⊕ However, a wide range of **special provisions are available** to as many states that have been listed under **Articles 371, 371-A to 371-H, and 371-J**.
- Following the **recommendations of 14th FC, SCS cease to exist** and thus no SCS has been granted to any State.
 - ⊕ Current special funding pattern to **North Eastern and Himalayan States**, etc. is on account of recommendations of Sub-Group of Chief Ministers and not as per their SCS.

Benefits of Granting SCS to states

- In SCS States, **Centre-State funding** of centrally sponsored schemes is divided in **90:10**, far **more favourable than 60:40 or 80:20 splits** for general category States.
- In case of unspent money, **states with SCS have the provision to carry it forward**.
- **SCS states are exempted** from customs duty, corporate tax, income tax and other taxes to attract investment.

Criteria for Special Category Status



Also in News



Parole

Karnataka High Court ordered the release of a convict on parole under extraordinary circumstances.

About Parole

- Parole means **temporary release of a convict for short period of time** for attending to familial and social obligations (like death in family).
- It is **not a matter of right**.
- It is **covered under Prisons Act of 1894 and Prisoner Act, 1900**.
- Since **Prisons is a State subject**, Prisons Act of **each state government defines rules under which parole is granted** in that state.
- Prisoners convicted of **multiple murders** or under **anti-terror Unlawful Activities Prevention Act** are **not eligible** for parole.



Pump and Dump Scheme

Recently SEBI imposed a fine on some individuals for allegedly operating a 'pump and dump' scheme.

- It was operated by recommendations shared through Telegram channels, resulting in **public shareholders purchasing stock at inflated prices**.

About Pump and Dump Scheme:

- A manipulation activity involving artificially inflating a stock's price through **false and misleading information/recommendations**.
 - ⊕ It is **done only to sell stock at an inflated price**.
- **Prevalent in micro-cap and small-cap sectors** due to limited public information and lower trading volumes.
- **Impact**: Undermine confidence in financial markets, and substantial losses to investors.
- **Regulation**: Under SEBI's guidelines, it is completely banned.



Clearing Corporations

SEBI has formed a **committee under Usha Thorat** to review ownership and economic structure of **clearing corporations**.

Clearing Corporation (CC)

- It is an entity which handles the activity of **clearing and settlement of trades in securities or other instruments that are traded on stock exchanges**.
- CCs along with stock exchanges and depositories constitute **Market Infrastructure Institutions**.
- CCs are significant as **central risk management institutions** and as a first line regulator.
- **Securities Contracts (Regulation) (Stock Exchanges and Clearing Corporations (SECC)) Regulations, 2018** lays down norms for ownership and governance framework of CCs.



Arun-3 Hydro Electric Project

Prime Minister of Nepal completed the last blast of Head Race Tunnel of Arun-3 Hydro Electric Project in Nepal.

Arun-3 Hydro Electric Project

- It is a **900 MW run-of-the-river hydropower project** on Arun River in **Sankhuwasabha** district of Eastern Nepal.
 - ⊕ Run-of-the-river is hydroelectric system that **harvest energy from flowing water to generate electricity** in absence of a large dam and reservoir.
- **SJVN Arun-III Power Development Company (SAPDC)**, wholly-owned subsidiary of India's Satluj Jal Vidyut Nigam, is developing it on **Build-Own-Operate-Transfer** basis.
 - ⊕ SAPDC will operate for 25 years, excluding construction period of five years, before transferring ownership to Nepal government.



QS World University Rankings (WUR), 2025

It was released by Quacquarelli Symonds (QS), a leading network of experts in education sector.

QS World University Rankings (WUR), 2025

- It is **based on 9 Performance indicators** i.e.
 - ⊕ Academic Reputation, Employer Reputation, Faculty Student Ratio, Citations per Faculty, International Faculty Ratio, International Student Ratio, International Research Network, Employment Outcomes, and Sustainability.
- **Indian Institute of Technology Bombay (IIT-B)** ranked at **118**.
- **Massachusetts Institute of Technology (MIT) USA** topped for 13th consecutive year.



Global Annual to Decadal Climate Update (2024-2028)

This report is **issued annually** by the World Meteorological Organization (WMO) and it provides a synthesis of the global annual to decadal predictions.

Highlights of Report

- 80% likelihood that annual average global **temperature will temporarily exceed 1.5°C above pre-industrial levels** for at least one year between 2024-2028.
- 86% chance that **at least one year** between 2024-2028 will be warmer than 2023, present warmest year on record.
- **Predicts reductions in sea-ice concentration** in the Barents Sea, Bering Sea, and Sea of Okhotsk.



Bioremediation

Recently, researchers found that marine fungus **Parengyodontium album** can **break down the plastic polyethylene** after being exposed to UV radiation.

- Such plastic degrading microorganisms can be utilized for **bioremediation of plastics**.

Bioremediation

- It is the process of **reduction & elimination of contaminants** present in the natural environment like soil, water through the **application of microorganisms**.
- Researchers have found **various plastic degrading bacteria and fungi** that can be used for bioremediation of plastics.
- **Advantages:** minimal disruption of ecosystem, permanent elimination of contaminants, cheap operation costs etc.



Environmental Performance Index (EPI), 2024

- Recently, EPI 2024 has been published by Yale Center for Environmental Law & Policy.

About EPI, 2024:

- ⊕ Using **58 performance indicators across 11 issue categories**, EPI ranks **180 countries** on climate change performance, environmental health, and ecosystem vitality.
 - ◆ **Estonia** tops the list.
- **India-related Findings:**
 - ⊕ India has been **ranked 176**.
 - ⊕ India is currently world's **third-largest GHG emitter**, with total emissions growing 32 percent over past decade.
 - ⊕ In 2022, India surpassed China as the **world's largest emitter of anthropogenic sulfur dioxide**.

Personality in news



Narayan Malhar Joshi (1879 - 1955)

Recently he was remembered on his birth anniversary.

About N.M. Joshi (Nana Saheb Joshi)

- He was a **trade unionist and freedom fighter** born in Maharashtra.

Key Contributions

- Represented India at **first International Labour Conference** in 1919.
- **Associated organizations:** Established **Social Service League** in 1911.
 - ⊕ Co-founded **All India Trade Union Congress** in 1920 and helped establish **Bombay Textile Labour Union**.
 - ⊕ Prominent member of **Bombay Provincial Congress Committee, People's Volunteer Brigade and Servants of India Society**.
- Known for his work in **Royal Commission on Labour in India** (Describing conditions of workers).

Values: Patriotism, Compassion, Justice etc.

