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PREPARATION
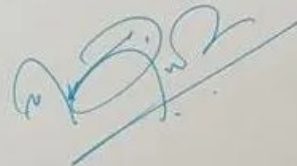
February 2023

![ForumIAS logo]

I enrolled myself in the Forum Mains Guidance Program + for GS and Essay test series. The answer writing practice and written feedback from Forum alongwith 'Best answers' and topper's copies provided helped me improve my answers and get a high score in my General Studies papers.

Ayush sir's regular articles were also fun and encouraging reads - I thank the ForumIAS team for their guidance during my two year association with them.

Shruti Sharma
AIR 1, CSE 2021

forumIAS has been an integral part of my upsc journey, right from my very first attempt. The prelims and mains test series have helped me a lot and I have referred to them in all my three attempts. One on one session with Ayush Sir for interview was beneficial too. Always enjoy reading his articles on the forumIAS blog.

with Best wishes,

Utkarsh Dwivedi
AIR 5, CSE 2021

5 students in Top 10 and 57 students in Top 100 Ranks List of CSE 2021 are ForumIAS Academy students. Total 303 selections out of 685 vacancies.

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Focus Article

Union Budget 2023-24

What is the vision of the Union Budget 2023-24? – (1) The Union Finance Minister said that the vision for the *Amrit Kaal* includes **technology-driven and knowledge-based economy** with strong public finances, and a robust financial sector; **(2)** To achieve this, *Jan Bhagidari* through *Sabka Saat Sabka*

Vision for *Amrit Kaal*

Prayas is essential. The Economic Agenda to achieve this focuses on 3 things: **(a)** Facilitating ample **opportunities for citizens**, especially the youth, to fulfil their aspirations; **(b)** Providing strong impetus to **growth** and **job creation**; **(c)** Strengthening **macro-economic stability**; **(4)** To service these focus areas in the journey to **India@100**, 4 opportunities can be transformative during the *Amrit Kaal*: **(a) Economic Empowerment of Women** through formation of **large producer enterprises or collectives**; **(b) PM VIshwakarma KAushal Samman (PM VIKAS)**: The art and handicraft created by traditional artisans represents the true spirit of *Atmanirbhar Bharat*. A package of assistance for them has been conceptualized to enable them to improve **the quality, scale and reach of their products**, integrating them with the MSME value chain. This will greatly benefit the weaker sections; **(c) Tourism**: The sector holds **huge opportunities for jobs**. Promotion of tourism will be taken up on **mission mode**, with active participation of States, convergence of Government programmes and public-private partnerships; **(d) Green Growth**: India is implementing many programmes for **green fuel, energy, farming, mobility, buildings** etc. The green growth efforts will help in **reducing carbon intensity** of the economy and provide for large scale green job opportunities.
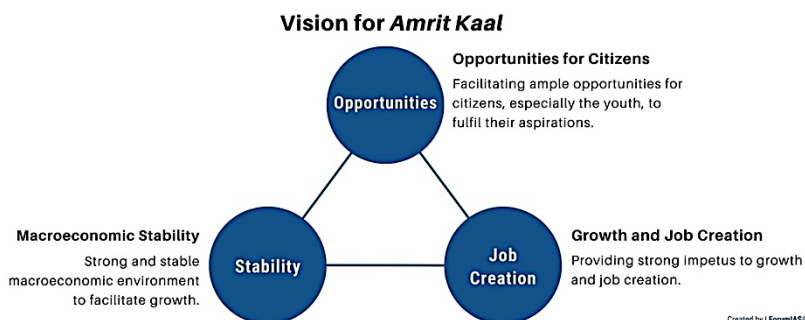
What are the Priorities of the Union Budget 2023-24? - The Union Finance Minister has listed seven priorities of the Union Budget and said that they complement each other and act as the '*Saptarishi*' guiding us through the *Amrit Kaal*. They are: **(a)** Inclusive Development; **(b)** Reaching the Last mile; **(c)** Infrastructure and Investment; **(d)** Unleashing the Potential; **(e)** Green Growth; **(f)** Youth power; **(g)** Financial Sector.

SAPTARISHI
7 PRIORITIES OF BUDGET 2023-2024

What is the core strategy adopted by the Union Budget 2023-24? - The Government has chosen to stick to the growth strategy. This growth strategy has two prongs: **(1) Raising Capital Expenditure**: The Budget has raised capital expenditure by the Government to **INR 10 lakh crore**. This is more than double the INR 4.39 lakh crore of 2020-21. Capital expenditure will create productive assets such as roads, bridges and ports etc. and will provide a greater return to the economy; **(2) Fiscal Prudence**: The target of **fiscal deficit has been set to 5.9% of the GDP**. This is expected to have a salutary impact on the **broader economy**,

as it suggests that money will be available for private entrepreneurs to borrow and invest. (*Refer EPIC January 2023 for Fiscal Deficit in India*).

BUDGET AT A GLANCE

(₹ crore)	2021-22 Actuals	2022-23 Budget Estimates	2022-23 Revised Estimates	2023-24 Budget Estimates
1 Revenue Receipts	21,69,905	22,04,422	23,48,413	26,32,281
2. Tax Revenue (Net to Centre) 1	18,04,793	19,34,771	20,86,662	23,30,631
3. Non Tax Revenue	3,65,112	2,69,651	2,61,751	3,01,650
4 Capital Receipts	16,23,896	17,40,487	18,38,819	18,70,816
5. Recovery of Loans	24,737	14,291	23,500	23,000
6. Other Receipts	14,638	65,000	60,000	61,000
7. Borrowings and Other Liabilities 2	15,84,521	16,61,196	17,55,319	17,86,816
8 Total Receipts (1+4)	37,93,801	39,44,909	41,87,232	45,03,097
9 Total Expenditure (10+13)	37,93,801	39,44,909	41,87,232	45,03,097
10. On Revenue Account, of which	32,00,926	31,94,663	34,58,959	35,02,136
11. Interest Payments	8,05,499	9,40,651	9,40,651	10,79,971
12. Grants in Aid for creation of capital assets	2,42,646	3,17,643	3,25,588	3,69,988
13. On Capital Account	5,92,874	7,50,246	7,28,274	10,00,961
14 Effective Capital Expenditure (12+13)	8,35,520	10,67,889	10,53,862	13,70,949
15 Revenue Deficit (10-1)	10,31,021 (-4.4)	9,90,241 (-3.8)	11,10,546 (-4.1)	8,69,855 (-2.9)
16 Effective Revenue Deficit (15-12)	7,88,375 (-3.3)	6,72,598 (-2.6)	7,84,958 (-2.9)	4,99,867 (-1.7)
17 Fiscal Deficit [9-(1+5+6)]	15,84,521 (-6.7)	16,61,196 (-6.4)	17,55,319 (-6.4)	17,86,816 (-5.9)
18 Primary Deficit (17-11)	7,79,022 (-3.3)	7,20,545 (-2.8)	8,14,668 (-3.0)	7,06,845 (-2.3)

1 RE 2022-23 is reduced by ₹32,607 crore on account of net amount payable by Centre for prior years. Growth in BE 2023-24 over RE 2022-23 is 10% excluding prior year adjustments. 2 Includes drawdown of Cash Balance. Notes: (i) Nominal GDP for BE 2023-2024 has been projected at ₹3,01,75,065 crore assuming 10.5 % growth over the estimated Nominal GDP of ₹2,73,07,751 crore as per the First Advance Estimates of FY 2022-23.(ii) Individual items in this document may not sum up to the totals due to rounding off.(iii) Figures in parenthesis are as a percentage of GDP.

RUPEE COMES FROM (% of total)
- 34 Borrowings and other liabilities
- 17 Goods & Service Tax & Other taxes
- 15 Corporation tax
- 15 Income tax
- 7 Union Excise Duties
- 4 Customs
- 6 Non-tax receipts
- 2 Non-debt Capital receipts

RUPEE GOES TO (% of total)
- 20 Interest Payments
- 17 Central Sector Scheme
- 9 Finance Commission & other transfers
- 18 States share of taxes and duties
- 9 Centrally Sponsored Scheme
- 8 Defence
- 7 Subsidies
- 8 Other expenditure
- 4 Pensions

Central Sector Scheme excludes capital outlay on defence and subsidies

What are the major highlights of Union Budget 2023-24?

FISCAL POSITION

- The Fiscal deficit target of 6.4% for FY2022-23 has been retained in the Revised Estimates. The **target for FY2023-24 has been reduced to 5.9%** (INR 17.86 lakh crore). The medium-term target is to reduce Fiscal Deficit to 4.5% by FY2025-26.

CAPITAL EXPENDITURE (CAPEX)

- The Capital Expenditure has been hiked by 33% to INR 10 lakh crores (3.3% of GDP).
- The aim is to enhance growth potential and job creation, **crowd-in private investments**, and provide a cushion against anticipated global slowdown. The **Effective Capital Expenditure is INR 13.7 lakh crore** and includes provision made for creation of capital assets by *Grants-in-Aid* to States.

RAILWAYS AND TRANSPORTATION

- An **outlay of INR 2.4 lakh crore** provided for Railways in FY2023-24.
- It's the **highest ever allocation** for Railways; 9 times the amount allocated in 2013-14.
- 100 critical transport infrastructure projects, for **last and first mile connectivity** for ports, coal, steel, fertilizer, and food grains sectors have been identified and they will be **taken up on priority** with investment of Rs 75,000 crore, including Rs 15,000 crore from private sources.

Railway Budget at a Glance In ₹ crore — UNION BUDGET 2023-24

Excess: 2021-22 (Actuals) -15,025; 2022-23 (BE) 5,360; 2022-23 (RE) 2,393; 2023-24 (BE) 2,210

Operating Ratio (In per cent): 2021-22 (Actuals) 107.39; 2022-23 (BE) 96.98; 2022-23 (RE) 98.22; 2023-24 (BE) 98.45

Working Results (Gross Traffic Receipts / Total Working Expenses): 2021-22 1,91,206 / 2,04,606; 2022-23 (BE) 2,39,600 / 2,32,000; 2022-23 (RE) 2,42,693 / 2,38,000; 2023-24 (BE) 2,64,600 / 2,60,090

Railway Earnings (Passenger / Freight): 2021-22 39,214 / 1,41,096; 2022-23 (BE) 58,500 / 1,65,000; 2022-23 (RE) 64,000 / 1,65,000; 2023-24 (BE) 70,000 / 1,79,500

- 50 additional Airports, Heliports, Water Aerodromes, Advanced Landing Grounds will be revived to **improve regional air connectivity**.

DEFENCE

- The Ministry of Defence has been allocated a **total Budget of INR 5.93 lakh crore**, which is **13.18 % of the total budget**.
- INR 1.62 lakh crore has been set aside for **capital expenditure** including purchases of new weapons, aircraft, warships and other military hardware.
- **iDEX has been allocated INR 116 crore** to further foster innovation.

MSMEs

- Revamped **Credit Guarantee for MSMEs** will take effect from April 1, 2023 with infusion of INR 9,000 crore in corpus. The scheme would enable **additional collateral-free guaranteed credit** of INR 2 lakh crore and also **reduce the cost of the credit** by about 1%.
- An **Entity DigiLocker** will be set up for use by MSMEs, large business and charitable trusts for storing and sharing documents online securely, whenever needed, with various authorities, regulators, banks and other business entities.

Central Govt Expenditure
Budget Estimates for 2023-24

UNION BUDGET 2023-24

Total 45,03,097

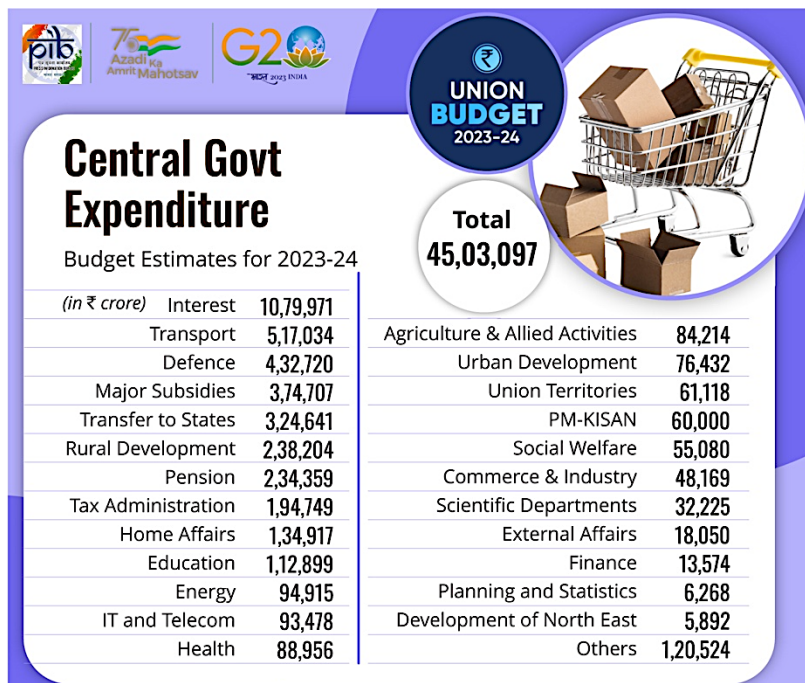| (in ₹ crore)			
Interest	10,79,971	Agriculture & Allied Activities	84,214
Transport	5,17,034	Urban Development	76,432
Defence	4,32,720	Union Territories	61,118
Major Subsidies	3,74,707	PM-KISAN	60,000
Transfer to States	3,24,641	Social Welfare	55,080
Rural Development	2,38,204	Commerce & Industry	48,169
Pension	2,34,359	Scientific Departments	32,225
Tax Administration	1,94,749	External Affairs	18,050
Home Affairs	1,34,917	Finance	13,574
Education	1,12,899	Planning and Statistics	6,268
Energy	94,915	Development of North East	5,892
IT and Telecom	93,478	Others	1,20,524
Health	88,956		

BANKING

- Amendments to the Banking Regulation Act have been mooted to **improve governance in banks**.

EMPLOYMENT

- *Pradhan Mantri Kaushal Vikas Yojana* **4.0**, will be launched to skill lakhs of youth within the next 3 years covering **new age courses for Industry 4.0** like coding, AI, robotics, mechatronics, IOT, 3D printing, drones, and soft skills etc.
- 30 **Skill India International Centres** will be set up across different States to skill youth for international opportunities.
- **Direct Benefit Transfer** under a pan-India **National Apprenticeship Promotion Scheme** will be rolled out. It will provide stipend support to 47 lakh youth in three years.

CLEAN ENERGY

- The Union Budget 2023-24 has provided INR 35,000 crore for priority **capital investments towards energy transition** and **net zero objectives**, and **energy security**.
- To steer the economy on the sustainable development path, Battery Energy Storage Systems with capacity of 4,000 MWH will be supported with **Viability Gap Funding**.
- **National Green Hydrogen Mission** with an outlay of INR 19,700 crore will facilitate the transition of the economy to low carbon intensity, reduce dependence on fossil fuel imports and enable India assume technology and market leadership.

EASE OF DOING BUSINESS

- The Government will bring another dispute resolution scheme *Vivad Se Vishwas-2* to settle commercial disputes.
- PAN will be used as common identifier for all digital systems of Government agencies.
- **One stop solution** for reconciliation and updating identity maintained by various agencies will be established using digi-locker and Aadhaar as foundational identity.
- **Central Processing Centre** will be setup for **faster response to companies** through centralized handling of various forms filed with field offices under the Companies Act.
- *Jan Vishwas* **Bill** to amend 42 Central Acts have been introduced to further **trust-based governance**.

DIGITAL SERVICES

- Scope of services in DigiLocker will be expanded.
- 100 labs for **developing applications to use 5G services** will be set up in engineering institutions.
- **Bharat Shared Repository of Inscriptions** will be set up in a digital epigraphy museum, with digitization of one lakh ancient inscriptions in the first stage.
- iGOT *Karmayogi*, an integrated online training platform, has been launched to provide continuous **learning opportunities for government employees** to **upgrade their skills** and **facilitate people-centric approach**.
- **Phase 3 of e-Courts** projects will be launched with outlay of INR 7,000 crore.

ARTIFICIAL INTELLIGENCE

- Three **Centres of Excellence for Artificial Intelligence** will be set-up in top educational institutions to realise the vision of '**Make AI in India and Make AI work for India**'.

GEMS AND JEWELLERY

- To encourage the indigenous production of **lab-grown diamonds**, a research and development grant is to be provided to one of the IITs for 5 years.
- Basic customs duty on seeds used in the manufacture of Lab Grown Diamonds has also been reduced.

URBAN DEVELOPMENT

- **Urban Infrastructure Development Fund** (UIDF) will be established through use of Priority Sector Lending shortfall. It will be managed by the **National Housing Bank**, and will be used by public agencies to **create urban infrastructure** in Tier 2 and Tier 3 cities.
- Cities will be incentivised to improve creditworthiness for **municipal bonds**.
- Under the **NAMASTE** (National Action Plan for Mechanised Sanitation Ecosystem) scheme, the Union government will endeavour to enable **100% mechanical desludging of septic tanks and sewers** in all cities and towns.

HOUSING

- Outlay for **PM *Awaas Yojana*** has been enhanced by 66% to over INR 79,000 crore.
- The Union Government will continue to provide **50-year interest-free loans** to State Governments for one more year.

TRIBAL WELFARE

- *Pradhan Mantri* **Primitive Vulnerable Tribal Group** (PM PVTGS) mission is being launched to improve socio-economic condition on PM PVTGS.

Reaching The Last Mile
No One To Be Left Behind

UNION BUDGET 2023-24

- **Pradhan Mantri PVTG Development Mission** to be launched
- **Financial assistance** for sustainable micro irrigation in drought prone regions of Karnataka
- **38800 more teachers** for 740 Eklavya Model Residential Schools
- **Free food grain** to all Antyodaya and priority households for **one year, under PMGKAY**
- **Bharat SHRI** to be set up for digitization of ancient inscriptions
- Outlay of **PM Awas Yojna** enhanced by **66 %**
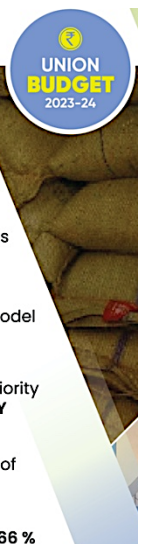
- INR 15,000 crore will be spent over next 3 years for providing safe housing, sanitation, drinking water, and electricity to tribals.

HEALTH

- The Union Budget 2023-24 has announced an **allocation of INR 89,155 crore for the Ministry of Health**, which is just 3.43% higher than its FY2022-23 outlay of INR 86,200.65 crore.
- A new programme for **research in pharmaceuticals** will be formulated and the industry will be encouraged to invest in research.
- A Mission to **eliminate Sickle Cell Anaemia by 2047** will be launched, which will entail awareness creation, universal screening of 7 crore people in the age group of 0-40 years in affected tribal areas.

EDUCATION

- 157 new **nursing colleges** will be established in **co-location** with the existing 157 medical colleges established since 2014.
- *Eklavaya* **Model Residential Schools** to be set up in the next 3 years. The Union Government will recruit 38,800 teachers and support staff for 740 schools serving 3.5 lakh tribal students.
- **National Digital Library** will be set up for children and adolescents. States will be encouraged to set up **physical libraries for children** at **panchayat and ward levels** and provide infrastructure for accessing the **National Digital Library resources**.

AGRICULTURE

- An **Agriculture Accelerator Fund** will be set up to **encourage agri-startups** by young entrepreneurs.
- A new sub-scheme of **PM** *Matsya Sampada Yojana* with targeted investment of INR 6,000 crore will be launched to further enable activities of fishermen, fish vendors, and micro/small enterprises, improve value chain efficiencies, and expand the market.
- **Digital Public Infrastructure for Agriculture** will be built as an **open source, open standard and inter operable public goods** to enable **inclusive farmer centric solutions** and support for growth of agri-tech industry and start-ups.
- Computerisation of 63,000 **Primary Agricultural Credit Societies** (PACS) with an investment of INR 2,516 crore has been initiated.
- **PM Programme for Restoration, Awareness, Nourishment and Amelioration of Mother Earth** (PM-PRANAM) will be launched to incentivize States and Union Territories to **promote alternative fertilizers and balanced use of chemical fertilizers**. Over the next 3 years, one crore farmers will **get assistance to adopt natural farming**.
- To make India a global hub for '*Shree Anna*', the Indian Institute of Millet Research, Hyderabad will be supported as the Centre of Excellence for sharing best practices, research and technologies at the international level.
- 500 new '**Waste to Wealth' plants** under GOBARdhan (Galvanizing Organic Bio-Agro Resources Dhan) scheme will be established for promoting **circular economy** with investment of INR 10,000 crore. **5% compressed biogas mandate** will be introduced for all organizations marketing natural and bio-gas.
- *Atmanirbhar* **Clean Plant Program** with an outlay of INR 2200 crore will be launched to **boost availability** of disease-free, quality planting material for high value **horticultural crops**.

AGRICULTURE AND COOPERATIVES

UNION BUDGET 2023-24

INCLUSIVE DEVELOPMENT

- More Credit to Agriculture Sector: **186 lakh cr** in FY22
- **Agriculture Accelerator Fund** to encourage Start-Ups in rural areas
- **Atmanirbhar Bharat Horticulture Clean Plant Program** to boost production of high value horticultural crops
- ₹**20 lakh cr** credit for Animal Husbandry, Dairy and Fisheries sector
- Additional storage capacity for farm produce
- Support to making India a Global Hub For Millets: **'Shree Anna'**

TOURISM

- **50 tourist destinations** will be selected through challenge mode to be developed as a whole package for **domestic and international tourism**.
- States will be encouraged to set a '**Unity Mall**' in State Capital or the most popular tourist destination in the State for the promotion and sale of '**One District, One product**' and **GI products** and other handicraft.
- Tourism infrastructure and amenities will be facilitated in border villages through the **Vibrant Villages Programme**.

What are the Tax proposals mentioned in Union Budget 2023-24?

(A) Direct Taxes

(1) To further **improve tax payer services**, it has been proposed to roll out a next-generation **Common IT Return Form** for tax payers' convenience, along with plans to **strengthen the grievance redressal mechanism**; **(2)** Rebate limit of Personal Income Tax has been increased to INR 7 lakh from the current INR 5 lakh in the **New Tax Regime** (NTR). **New Tax slabs** have also been proposed under the NTR; **(3)** Highest surcharge rate is **proposed to be reduced** from 37% to 25% in the NTR. This will result in reduction of the maximum personal income tax rate to 39%. The NTR will be made the **default tax regime**. However, citizens will continue to have the option to avail the benefit of the Old Tax Regime; **(4)** TDS rate will be **reduced from 30% to 20%** on taxable portion of EPF withdrawal in non-PAN cases; **(5)** *Agniveer* **Fund** will be provided **EEE status**. The payment received from the **Agniveer Corpus Fund** by the *Agniveers* enrolled in *Agnipath* Scheme, 2022 are proposed to be exempt from taxes. (*EEE stands for Exempt-Exempt-Exempt meaning part of income invested is considered for deduction and is not taxable, interest earned on investment is exempted and the investment at the time of withdrawal is exempted from tax*).

(B) Indirect Taxes

(1) The number of **basic customs duty rates** on goods, other than textiles and agriculture, has been **reduced to 13 from 21**; **(2)** Excise duty has been exempted on **GST-paid compressed bio-gas** contained in **blended compressed natural gas**; **(3)** Customs Duty exemption on specified **capital goods and machinery for manufacture of lithium-ion cell** for use in EVs has been extended to March 2024.

(C) Legislative Changes in Customs Laws

(1) Customs Tariff Act will be amended to clarify the **intent and scope of provisions** relating to Anti-Dumping Duty (ADD), Countervailing Duty (CVD), and Safeguard Measures; **(2)** The CGST Act will be amended to **raise the minimum**

threshold of tax amount for launching **prosecution under GST** from INR One crore to Two crore. It will also **decriminalise certain offences**.
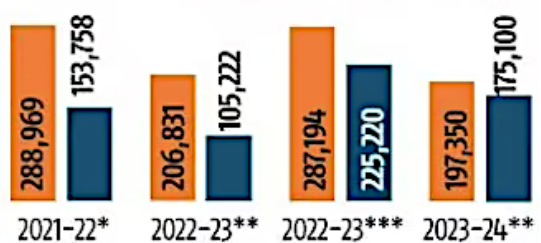
What are other significant proposals in the Budget? – (1) Aspirational Blocks Programme covering 500 blocks launched for saturation of **essential government services** across multiple domains such as health, nutrition, education, agriculture, water resources, financial inclusion, skill development, and basic infra; **(2) New Infrastructure Finance Secretariat** will be established to enhance opportunities for private investment in infrastructure; **(3) National Financial Information Registry** will be set up to serve as the **central repository** of financial and ancillary information for **facilitating efficient flow of credit**, promoting **financial inclusion**, and fostering financial stability. A **new legislative framework** will be designed in **consultation with RBI** to govern this credit public infrastructure; **(4) National Data Governance Policy** will be brought out to unleash innovation and research by start-ups and academia; **(5) Mangrove Initiative for Shoreline Habitats and Tangible Incomes**, (MISHTI) will be taken up for mangrove plantation along the coastline and on salt pan lands, through **convergence between MGNREGS, CAMPA Fund** and other sources; **(6) Green Credit Programme** will be notified under the **Environment (Protection) Act** to incentivize and mobilize **additional resources** for environmentally sustainable and responsive actions; **(7)** *Amrit Dharohar* **Scheme** will be implemented over the next 3 years to encourage **optimal use of wetlands, enhance bio-diversity, carbon stock, eco-tourism** opportunities and income generation for local communities; **(7)** To commemorate *Azadi Ka Amrit Mahotsav*, a one-time new small savings scheme, *Mahila Samman* **Savings Certificate** will be launched. It will offer **deposit facility upto INR 2 lakh** in the name of women or girls for tenure of 2 years (up to March 2025) at **fixed interest rate of 7.5%.**

What are the concerns associated with the Union Budget 2023-24? – (1) Economists observe that the Income Tax exemptions under the **Old Tax Regime promoted savings**, which support investments. The New Tax Regime's push towards consumption **may hurt India's savings rate**; **(2)** The funds allocated to the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) have been **slashed by ~32% for 2023-24** (INR 60,000 crore compared to the revised estimate of INR 89,400 crore for FY2022-23). This can **negatively impact rural incomes and economy**; **(3)** As compared to FY22-23, the allocation to the Department of Health Research has been reduced by ~7%. This **reflects poorly on health sector** as well as **R&D allocation**; **(4)** Higher import taxes can have detrimental effects on the jewellery industry, including an increase in cases of corruption and smuggling.

There were apprehensions that the Budget may resort to populist measures ahead of the election year. However, most economic experts have observed that the Government has tried to **push for long term growth** while **ensuring macro-stability** in the short term. The Government has focused on increasing the capital expenditure and raising more revenues through disinvestment and privatization. The Government has **maintained fiscal prudence** and has avoided splurging on populist schemes. In the middle term, the Government must continue to rein-in the fiscal deficit and provide conducive environment for private investment to boost economic growth.

FERTILE GROUND
Food and fertiliser subsidies over the past few years (₹crore) ■Food ■Fertiliser
Change% −31.28 −22.25

Year	Food	Fertiliser
2021-22*	288,969	153,758
2022-23**	206,831	105,222
2022-23***	287,194	225,220
2023-24**	197,350	175,100

*Actuals **Budget Estimates (BE) ***Revised Estimates (RE); % change is from RE of 2022-23 versus BE of 2023-24
Source: Budget papers

General Studies Paper I

1. Monuments of National Importance

News: The Economic Advisory Council (EAC) to the Prime Minister has released a report titled 'Monuments of National Importance: The Urgent Need for Rationalization'.

What are Monuments of National Importance (MNI)? - A monument or a site is declared to be of National Importance by the **Archaeological Survey of India** provided it meets the following requirements: **(1)** The monument or archaeological site is **more than 100 years old**; **(2)** It has special **historical**, **archaeological** or **artistic interest**; **(3)** It qualifies under specified provisions of definition of the **Ancient Monuments and Archaeological Sites and Remains Act**, 1958 (AMASR Act); **(4)** The **authenticity and integrity** of the ancient monument or archaeological site and remains have not been damaged; **(5)** It is **free from major encumbrances**.
The protection and upkeep of MNIs is the responsibility of the Archaeological Survey of India (ASI).

What are the key findings of the Report? – (1) Too many MNIs: At present there are **3,693 MNIs**. However, a large number of MNIs (~25%) do not seem to possess **national importance or historical or cultural significance**. For instance, ~75 graves and cemeteries of British officers and soldiers on the list have no significance; **(2) Missing Monuments**: As many as 24 '**untraceable' monuments** are still being considered as MNIs. The report cited a 2013 audit by the **Comptroller and Auditor General**, which declared 92 monuments as **'missing' after a physical verification** exercise; **(3) Inadequate Funds to upkeep monuments**: The funds allocated for the upkeep and maintenance of many monuments are inadequate. There is **imbalance in the State-wise distribution of funds**. In 2019-20, Delhi received INR 18.5 crore (173 MNIs) and Uttar Pradesh was allocated INR 15.95 crore (745 MNIs). Moreover, the revenue collected at MNIs through ticketing, photography, filming etc does not go to the ASI or the Ministry of Culture; **(4) No definition of MNI**: Neither the AMASR Act, 1958 nor the **National Policy for Conservation** (2014) have defined the term **'national importance'**. The Act also **does not have a substantive process** or criteria prescribed for identifying MNIs. In absence of well-defined principles, the selection of MNIs seems to be **arbitrary**.

What are the recommendations given by the Report? – (1) The report has underlined an urgent need to **rationalise the list of MNIs**; **(2)** The ASI should evolve **substantive criteria** and a **detailed procedure** for declaring monuments as MNIs; **(3)** ASI should publish a **book of notifications** with detailed information about each MNI's provenance, hand over protection and upkeep of monuments of local importance to respective States. It should **de-notify to the extent possible**, all standalone antiquities like cannons and statues; **(4) Allocation of funds** for the preservation of MNIs should be increased and ASI should retain the proceeds generated from revenue streams like tickets, events, fees and other sources.

2. Gender Budgeting: Status, Benefits and Challenges

News: The Government has been releasing the Gender Budget (along with Union Budget) since 2005. The allocation to Gender Budget has remained less than 6% of total Government Budget since 2005.

What is the meaning of Gender Budgeting (GB)? – (1) Gender Budgeting is the **use of fiscal policies** and public financial management tools to **promote gender equality**; **(2)** It is an exercise that applies a 'Gendered-lens' to the allocation and tracking of public funds; **(3)** It entails analyzing fiscal policies and budgetary decisions to understand their impact on **gender equality** and using this information to design

and implement more **effective gender policies**; **(4)** It translates the gender commitments into fiscal commitments.
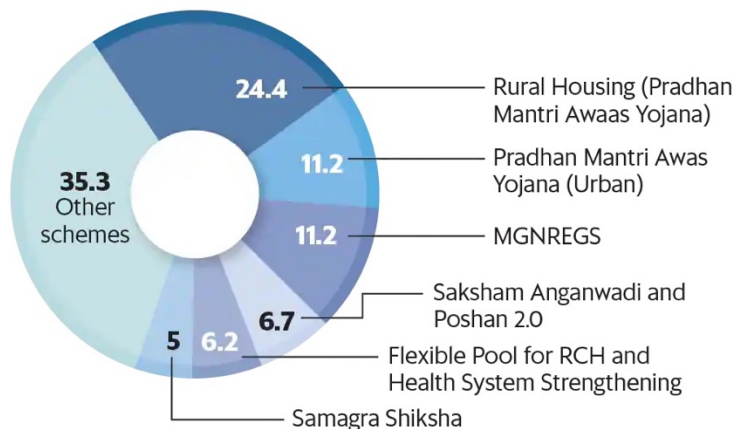
What is the status of Gender Budgeting in India? – (1) In India, Gender Budget comprises two parts: **(a)** Part A reflects **Women-Specific Schemes**: (100% allocation for women); **(b)** Part B reflects **Pro-Women Schemes** (at least 30% of the allocation is for women); **(2) Gender Budgeting Cells (GBCs)**: The Government has mandated the establishment of GBCs in all Ministries as an institutional mechanism. The GBCs conduct **gender-based impact analyses** to measure effectiveness and improve implementation; **(3)** The Ministry of Women and Child Development provides financial support to Government training institutions for **capacity building of Government officials** to enhance GB in States/UTs; **(4)** As of March 2021, 27 States/UTs have adopted Gender Budgeting. Goa, Haryana, Meghalaya, Mizoram, Telangana, Chandigarh, Ladakh, Puducherry haven't adopted GB yet; **(5) Budgetary Allocations**: India's Gender Budget has allocated INR **2.23 lakh crore** in the Union Budget 2023-24; (INR 2.18 lakh crore, Revised Estimate in FY2022-23). Part A of the Gender Budget has allotted over INR 88,000 crore. *Pradhan Mantri Awas Yojana* accounts for ~90% of the total funding for Part A. Part B has received INR 1.35 lakh crore. Part B comprise several schemes pertaining to rural development, health, education and women empowerment. Important women-centric schemes include like Safe City Project, **SAMBAL**, **SAMARTHYA** etc.

Global Perspective on Gender Budgeting

1995 UN's Beijing Platform for Action called for integrating a gender perspective into government budget processes.

2015 Addis Ababa Action Agenda for Development recognized the importance of tracking resource allocations for gender equality and strengthening capacity for Gender Budgeting.

1984 Introduced in Australia to evaluate the impact of the national budget on women and girls.

2015 UN's SDGs called for adequate resources, tools to track budget allocations for gender equality (Indicator 5.c.1)

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Share (%) of top schemes in gender budget, 2023-24

- 24.4 — Rural Housing (Pradhan Mantri Awaas Yojana)
- 11.2 — Pradhan Mantri Awas Yojana (Urban)
- 11.2 — MGNREGS
- 6.7 — Saksham Anganwadi and Poshan 2.0
- 6.2 — Flexible Pool for RCH and Health System Strengthening
- 5 — Samagra Shiksha
- 35.3 Other schemes

What are the benefits of Gender Budgeting? – (1) Understanding Impact of Budget: It leads to better awareness about impact of policy decisions on gender and help make more informed choices; **(2) Better Utilisation of Resources**: It can support efforts to re-design fiscal policies, adjusting resources to better address gender gaps; **(3) Achievement of Gender Equality Goals**: It leads to greater focus on achieving gender equality goals and more programmes incorporating gender related goals.

What are the challenges in Gender Budgeting? – (1) Low Allocation: The share of Gender Budget in overall Union Budget has always remained less than 6%. The highest allocation was in 2011-12 at 5.8%; **(2) Skewed Allocation**: Part A (100% allocation for women) has lower share in the Gender Budget (highest 46%

Early Adopters	Subsequent Adopters	Recent Adopters
Odisha (2004-05) Tripura (2005-06) Uttar Pradesh (2005) Karnataka (2006-07) Gujarat (2006) Lakshadweep (2006-07) West Bengal(2005-06)	Madhya Pradesh (2007-08) Jammu &Kashmir (2007-08) Arunachal Pradesh (2007-08) Chhattisgarh (2007-08) Uttarakhand (2007-08) Himachal Pradesh (2008) Assam (2008-09) Bihar (2008-09) Kerala (2010-11) Nagaland (2009)	Rajasthan (2011) Dadra and Nagar Haveli (2011-12) Andaman & Nicobar Islands (2012) Punjab (2012) Maharashtra (2013) NCT of Delhi (2013-14) Jharkhand (2015-16) Andhra Pradesh (2017) Tamil Nadu (2018-19) Manipur (2020)

in FY2021-22). Since 2005-06, the share of Part A was less than 30% of the overall Gender Budget for 12 years; **(3) Technical Challenges**: There are challenges like lack of guidance, coordination, expertise among personnel, and low quality of **Gender Impact Assessments** (GIAs); **(4) Absence of Gender-Disaggregated Data**: It limits the ability to accurately measure the effectiveness of the Gender Budgeting policies, making it difficult to formulate effective policies; **(5) Skewed Implementation**: Many sectors/schemes that can have impact

Allocation to Gender Budget as a Proportion of the Union Budget Fell
From 5.2% (2022-23) to 5% (2023-24)

on women, **do not practice Gender Budgeting**. NITI Aayog has noted that only **62 out of 119** centrally-sponsored schemes are practising GB; **(6) Under-Reporting**: The Gender Budget **does not take into account some major schemes** that benefit women e.g., the *Jal Jeevan* Mission (JJM, that has a major impact on women) is **not reported under Gender Budget**. The schemes that allocate **less than 30%** funds for women, are not covered in Part B of the Gender Budget; **(7) Lack of Accountability**: There is no mandate to have a **minimum allocation with respect to Gender Budget**. Monitoring and implementation **continue to be inadequate**.

What can be done to make Gender Budgeting more effective? – (1) Gender Budgeting Act: NITI Aayog has recommended a **Gender Budgeting Act** to mainstream GB across all Ministries and States/UTs; **(2) Improve Budget Allocation**: NITI Aayog has recommended State Governments to **increase budgetary allocation** towards women and child development; **(3) Guidelines**: There should be **uniform guidelines** regarding Gender Budgeting. Without guidelines for impact assessments, it is difficult to undertake analysis; **(4) Monitoring**: The **tools to monitor implementation and collect data** must be improved. Better data can help in accurate measurement of outcomes and designing targeted initiatives for gender equality; **(5) Gender Impact Assessments**: GIAs should be undertaken to help understand the gender impact of current and alternative policies.

Gender Budgeting Handbook, 2015

The 'Gender Budgeting Handbook, 2015' released by the Ministry of Women and Child Development notes that **Gender Budgeting is a tool for gender mainstreaming**. It observes that, "*Gender Budgeting is concerned with gender-sensitive formulation of legislation, policies, plans, programmes and schemes; allocation and collection of resources; implementation and execution; monitoring, review, audit and impact assessment of programmes and schemes; and follow-up corrective action to address gender disparities*". It is not only about the Budget and it is not just a one-time activity. It is a **continuous process** that must be applied to all levels and stages of the policy process.

3. The Issue of Menstrual Leaves

News: The SC has declined to consider a PIL seeking direction for the Government for implementation of Menstrual Leaves. The SC has said the issue falls in the domain of the Executive.

What is the meaning of Menstrual Leaves? – (1) Menstrual leave or **period leave** refers to all policies that allow female employees or students to t**ake time off when they are experiencing menstrual pain or discomfort**; **(2)** In the context of the workplace, it refers to policies that allow for both **paid or unpaid leave**, or **time for rest** during the menstruating period; **(3)** This mechanism **increases women's performance** after menstruation. It comforts their **overall well-being**.

What is the need for implementing a Menstrual Leaves system? – (1) Mental and Physical Impacts: Women experience period pain, or **dysmenorrhea**, for a couple of days. 15% to 25% women experience **moderate to severe menstrual cramps**. Menstrual pain hinders the day-to-day working. It affects both physical and mental health, impairing their capacity to perform; **(2) Increasing Women's LFPR**: Adoption of Menstrual leave policies will **signal progressive and inclusive approach** towards female employees. It will incentivize more women to work; **(3) Increase in productivity**: Providing proper rest to women during menstruation is likely to **increase their productivity** post-menstruation; **(4) Special Provisions for Women**: Article 15(3) provides that the State can make **special provisions** for women and children; **(5) Overcoming the Stigma**: Official recognition of the menstrual leaves will **remove the stigma** around the discussion on menstruation. Historically, menstruation has been stigmatised; which made it difficult for women to **communicate about their experiences** and **needs**; **(6) Maternity Benefit Act of 1961**: It provides for care for women during difficult stages of maternity. However, the inclusion of the menstrual period within the purview of the Act has been largely ignored by the legislature; **(7) Reducing female Drop-outs**: This will also help reduce the **drop-out rates of female students** from government schools in rural India caused by the **lack of clean toilets, running water, sanitary pads**, etc.; **(8) Inclusion**: Period leave would help create workplaces and classrooms that are more inclusive and more accommodating.

What are the challenges of implementing the Menstrual Leaves system? – (1) Strengthen Glass ceiling: It is feared that promoting menstrual leave will **strengthen gender stereotypes** about 'weakness' of females. It might hamper prospects of promotion of women employees due to potential beliefs that women will end up becoming liabilities to the organization; **(2) Lack of legislative will**: The petition in the SC highlighted that in 2018, an MP had introduced the **Women's Sexual, Reproductive, and Menstrual Rights Bill** which had proposed that sanitary pads should be made freely available for women by public authorities on their premises. Similarly, **Menstruation Benefits Bill, 201**7 was presented in 2022 in the Arunachal Pradesh Legislative Assembly (Private Member's Bill, the same member as an MP had first presented it in the Lok Sabha in 2017). But the subject was considered **'unsuitable' for discussion**. According to the petition, this portrays a lack of legislative will; **(3) Employment for women**: During the hearing, the SC remarked that if employers are **forced to grant menstrual leave**, it may operate as a **disincentive** for employers to engage women in their establishments. Thus this may **reduce the female labour participation**.

Global Practices on Menstrual Leaves

- **Spain**: The first European country to grant paid menstrual leave to workers, and other sexual health rights. Workers have the 3 days of menstrual leave, expandable to 5 days a month.
- **Japan**: Introduced menstrual leave as part of labour law in 1947.
- **Indonesia**: Introduced a policy in 1948, (amended 2003) saying that workers experiencing menstrual pain are not obliged to work on the first two days of their cycle.
- **Philippines**: Workers are permitted two days of menstrual leave a month.
- **South Korea**: Allows for monthly physiologic leave under their labour law. All female workers get a day off every month.
- **Vietnam**: Labour law stipulates a 30-minute break for women every day of their period cycle. In 2020, a 3-day leave per month was added.
- **Zambia**: introduced 1-day of leave a month without needing a reason or a medical certificate, calling it **Mother's Day**.
- Companies across nations, such as Nike and Coexist, have introduced menstrual leave.

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Some studies have noted that the number of women availing the benefits in Japan and South Korea have declined due to **social stigma** against menstruation.

What initiatives have been taken in India? – (1) The **Bihar government** introduced menstrual leave policy in 1992, allowing **2 days of paid menstrual leave every month**; **(2)** In January 2023, the **Kerala Government** issued an order granting menstrual leave for students in all **State-run higher education institutions**; **(3)** In 2017, two Mumbai-based companies, **Gozoop and Culture Machine**, became the first private companies to introduce period leave in India. In 2020, **Zomato** introduced menstrual leave for up to 10 days a year for its women and transgender employees. Since then, other private companies like **Swiggy and BYJU's** have also **introduced similar policies**.

What should be done going ahead? – (1) There are additional issues that need to be addressed, such as the **lack of sanitary facilities** in schools and workplaces, particularly in the **informal sector**; **(2)** Till a policy framework is devised, employers should take a more **women-centric approach** by allowing employees to **work from home** during days of menstruation, providing **menstrual hygiene products** in office spaces, and **not treating the subject of menstruation as taboo**; **(3)** It is necessary to provide education regarding menstruation throughout organisations. **Awareness** should be raised among the masses regarding the **incidence and effects of menstruation**. Men should be **sensitized and engaged in dialogue** to create a more **accommodative environment**.

4. Lithium Reserves in India: Strategic Significance and Challenges

News: The Geological Survey of India (GSI) has established 5.9 million tonnes of inferred lithium resources in Reasi, J&K. The finding can significantly impact India's transition to green mobility.

About Lithium and Its Uses – (1) Lithium is a **soft, shiny grey metal** found in the earth's crust. It is a **highly reactive** and alkaline metal; **(2)** Lithium is a **key element** for new technologies and finds its use in: **(a)** ceramics, glass, telecommunication and aerospace industries; **(b)** It is used in **Lithium-ion batteries**, lubricating grease, high energy additive to **rocket propellants**, optical modulators for mobile phones and as **convertor to tritium** used as a raw material for **thermonuclear reactions** (fusion); **(c)** It is also used to make **alloys with aluminium and magnesium**, improving their strength and making them lighter e.g., Magnesium-lithium alloy for **armour plating**, Aluminium-lithium

Types of Reserves and Resources (UNFC)

Mineral Reserve	Probable Mineral Reserve	Proven Mineral Reserve
Economically mineable part of measured and/or indicated mineral resource.	**Economically mineable** part of indicated or in some cases, a measured mineral resource.	**Economically mineable** part of measured mineral resource.
Mineral Resource	**Measured Mineral Resource**	**Indicated Mineral Resource**
A Mineral Resource (Remaining/Additional Resource) is the balance of the Total Mineral Resources that have **not been identified as Mineral Reserve**.	That part of mineral resource for which tonnage, density, shape, physical characteristics, grade and mineral content can be estimated with a **high level of confidence** based on detailed exploration.	The tonnage, density, shape, characteristics, grade and mineral content can be estimated with **reasonable level of confidence** based on exploration, sampling, testing, location of pits etc.

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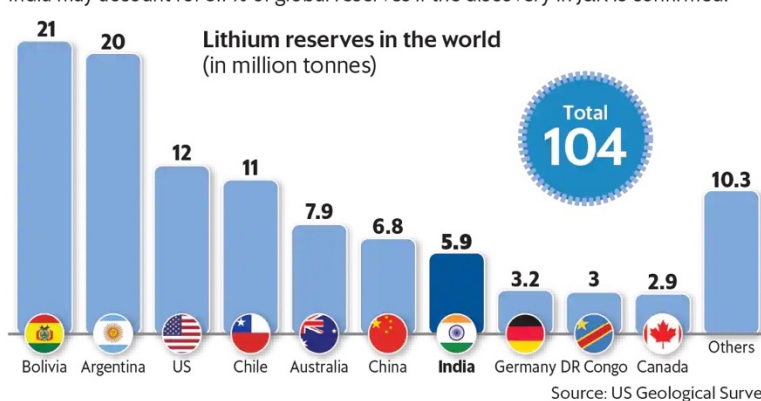*Inferred Mineral Resource: Tonnage, grade and mineral content can be estimated with **low level of confidence inferred from geological evidence**. Note: Resource is a broader and more general term than Reserve. Resource includes identified material that may be less well characterized, possibly of lower grade and less certain to be economically recoverable. Resources can be converted to Reserves by additional drilling or changes in economic factors, such as price or technology.*

alloys in **aircraft, bicycle frames and high-speed trains**; **(3)** A World Bank study suggests that the **demand for critical metals** such as lithium (Li) and cobalt is **expected to rise by nearly 500% by 2050**; **(4)** The **global EV market** is projected to reach **US$ 823.75 billion by 2030**; **(5)** Due to its utility in diverse applications, it also referred as '**White Gold**'. India is seeking to secure its **critical mineral supplies** and build self-sufficiency in this sector.

What is the status of Lithium reserves and extraction? – (1) Discovery of **5.9 million metric tonnes of lithium** has been made in the J&K. At present, the GSI has established '**Inferred Resources**' of Lithium. Thus, in pure technical terms, the deposits found in J&K are **not Reserves but Resources**. GSI will undertake **further research** to establish the <u>economic viability of mining Lithium</u>. Actual Reserves may turn out to be less than 5.9 million tonnes (Inferred Resources); **(2)** A survey led by the **Atomic Minerals Directorate for Exploration and Research** showed the presence of 1,600 tonnes (inferred category) of lithium resources in the Marlagalla area of Karnataka's Mandya district; **(3)** South America is a particularly rich in **reserves of Lithium**. Bolivia, Chile, and Argentina are collectively referred to as the '**Lithium Triangle**'. China currently controls **77% of the global lithium-ion battery manufacturing capacity** and is home to 6 of the world's 10 manufacturing companies.

Fields of white gold

India may account for 5.7% of global reserves if the discovery in J&K is confirmed.

Lithium reserves in the world (in million tonnes)

Total 104

Bolivia	Argentina	US	Chile	Australia	China	India	Germany	DR Congo	Canada	Others
21	20	12	11	7.9	6.8	5.9	3.2	3	2.9	10.3

Source: US Geological Survey

What is the significance of Lithium Reserves for India? – (1) Reducing Dependence on Imports: In FY2020-21, India imported lithium and lithium-ion worth **INR 173 crore and INR 8,811 crore respectively**. The demand is likely to **rise multi-fold in the future**. The finding of lithium reserves in India will **reduce dependence on imports**; **(2) Affordable Transition**: The discovery of domestic deposits of lithium will help the **expanding the EV ecosystem** at **reasonable and affordable costs**, and make the **transition to green mobility** more economical; **(3) Meet Government Objectives**: This will also help advance the Government's ambitious plan of **30%** EV penetration in private cars, **70%** for commercial vehicles, and **80%** for two and three-wheelers by 2030 for the automobile industry; **(4) Potential to become Major Producer**: The majority of the global reserves are located in regions with **severe water stress** limiting their ability to scale-up production. India has a **potential to replace global lithium supply chains**.

> **Li-Ion Battery (LiB) Ecosystem in India**
> ISRO's **Vikram Sarabhai Space Centre** has developed and qualified lithium-ion cells of capacities ranging from 1.5Ah to 100Ah, for use in **satellites and launch vehicles**. Following the successful deployment of indigenous LiBs in various missions, ISRO has decided to **transfer the technology** to manufacturers to set up **facilities for producing lithium ion cells** in the country.
> The Government has also focused on **developing the value chain** for batteries. To encourage **local manufacturing**, the Union Government doubled the **import duty on lithium-ion cells** to 10% in April 2021 and later announced a **PLI for Advanced Chemistry Cell** (ACC) batteries.

What are the challenges in extraction of Lithium? – (1) Geological Stability: According to the seismic zonation map of India, whole J&K, comes under **seismologically active Zones IV and V**. It is also **ecologically sensitive**. Mining in **geologically unstable** region will be a major challenge; **(2) Environmental Concerns**: Extracting Li from hard rock mines entails **open-pit-mining** followed by roasting the ore using fossil fuels. Open-pit-mining, refining, and waste disposal **substantially degrades the environment**, including **depletion and contamination of waterways** and **groundwater**, diminishing of **biodiversity**, and considerable air pollution; **(3) Environmental Justice**: According to a 2018 study, **sufficient research** has **not been performed** to address the sustainability difficulties posed by lithium mining and processing, particularly the question of its **impacts on local populations**; **(4) Mining Policy**: The absence of an **integrated mining policy for strategic metals and minerals**, and poor domestic capabilities could hinder exploitation of the reserves; **(5) Security Threat**: Certain **terror groups have threatened against mining of lithium reserves**. Security concerns can **hamper development of mining industry**, especially in attracting labour; **(6) Availability of Technology**: India lacks technology to **extract lithium and purify it**. Lithium is mixed with rocks and other minerals. It would require **breaking the rocks**, **removing volatile chemicals** with evaporation and magnetic impurities with magnets besides other chemicals and processing. There is **no prior experience** in extracting Lithium, nor tested domestic technology.

Exploring Lithium Reserves in India

Steps Taken by the Government

- The **Atomic Energy Act, 1962** permits the **Atomic Minerals Directorate** (a constituent unit of Department of Atomic Energy) for exploration of Lithium in various geological domains of the country.
- The **National Mineral Exploration Policy** of 2016 recognised the need to explore these minerals for the first time.
- Every year, as per approved annual **Field Season Programme** (FSP), the Geological Survey of India (GSI, under Ministry of Mines) takes up **different stages of mineral exploration** viz.
  - Reconnaissance Surveys (G4).
  - Preliminary Exploration (G3).
  - General Exploration (G2).

following the guidelines of **United Nations Framework Classification** (UNFC) and **Mineral Evidence and Mineral Content Rules** (MEMC-2015) for augmenting mineral resource for various mineral commodities including lithium.

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What should be done going ahead? – (1) The Government can **explore technology transfers** and tie ups with the **extraction industry from abroad** in the short term, while simultaneously developing **domestic technical expertise and know-how**; **(2)** The Confederation of Indian Industry (CII) has urged the Government to establish '**India Rare Earths Mission**' to reduce reliance on China. It has urged the Government to **encourage private sector mining** in the sector and **diversify sources of supply** for these strategic raw minerals *(Refer EPIC July 2022 for Rare Earth Elements: Strategic Importance and Reducing Import Dependence)*; **(3)** CII has also recommended that the public sector firm Indian Rare Earths Limited (IREL), administered by the Department of Atomic Energy, should be **split into two entities**. While IREL should **primarily focus on Thorium mining** (for Nuclear Power generation), the second entity should pursue other minerals including Rare Earths and Lithium; **(4)** The Government can make rare earth minerals a **part of the 'Make In India' campaign**, similar to China's 'Made in China 2025' initiative that focuses on new materials, including **permanent magnets** that are made **using rare earth minerals**.

The finding of Lithium Reserves can **reduce India's dependence on imports** and make India self-reliant in its **transition to Green Mobility**. It can ensure that **India's story of dependence on imports of fossil fuels** is **not repeated** as the economy enters a new green energy era. However, the Government must **proactively address** the **potential challenges in extraction of Lithium** and scale-up domestic Lithium production.

General Studies Paper II

1. Issues Related to Prisons and Prison Reforms

News: During his address to the Annual Police Meet, the Prime Minister called for Prison Reforms to improve jail management in India. The President had also expressed concern over overcrowded prisons.

What are the issues associated with Prisons in India? – (1) Overcrowding: The occupancy rate of prisons stood at 130% in 2021. Due to overcrowding, it is difficult to keep serious and habitual criminals and minor offenders apart. **Prolonged intermingling** can have **detrimental impact on minor offenders** and they might become **hardened criminals**; **(2) Rising Under-trials**: The number of undertrials in prisons has reached **77% in 2021**. Rising proportion of undertrials is a major factor in **overcrowding of prisons**. Prolonged incarceration without trial is **violative of basic rights**. People from disadvantaged sections have **higher proportion in jails** compared to **more affluent sections** (NCRB data). Legislations such as the **Habitual Offenders Act and Beggary Laws** allow the police to target SCs/STs for reported crimes (*Refer EPIC December 2022 for The Issue of Undertrials in India*); **(3)**

Mistreatment and Torture: The prisoners, including undertrials, are **forced to do hard work without pay** or for very **meagre compensation against the law**. Many prisoners are subjected to torture. The cases of **custodial deaths** are also increasing. Women inmates **face harassment**; **(4) Shortage of Staff**: ~33% of the total requirement for jail authorities **remains unfilled**. The number of prison staff to prisoners is about 1:7. (i.e., one prison officer for every 7 prisoners). In the UK, there are **2 prison officers for every 3 prisoners**. Lack of staff leads to **incidence of violence** and other **illegal activities**; **(5) Poor Hygiene**: Most prisons tend to be dirty and unhygienic. There is **lack of adequate medical facilities**. They lack infrastructure to address special needs of women; **(6) Social Issues**: Prisoners are **denied opportunity** to **periodically interact** with their families. Prolonged

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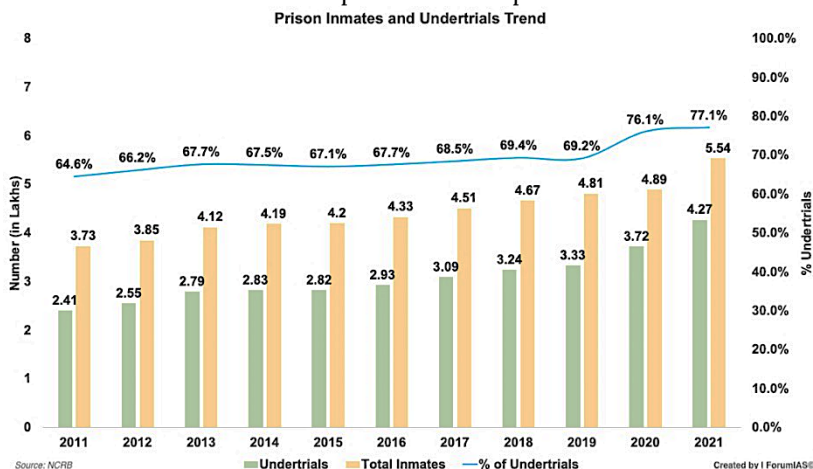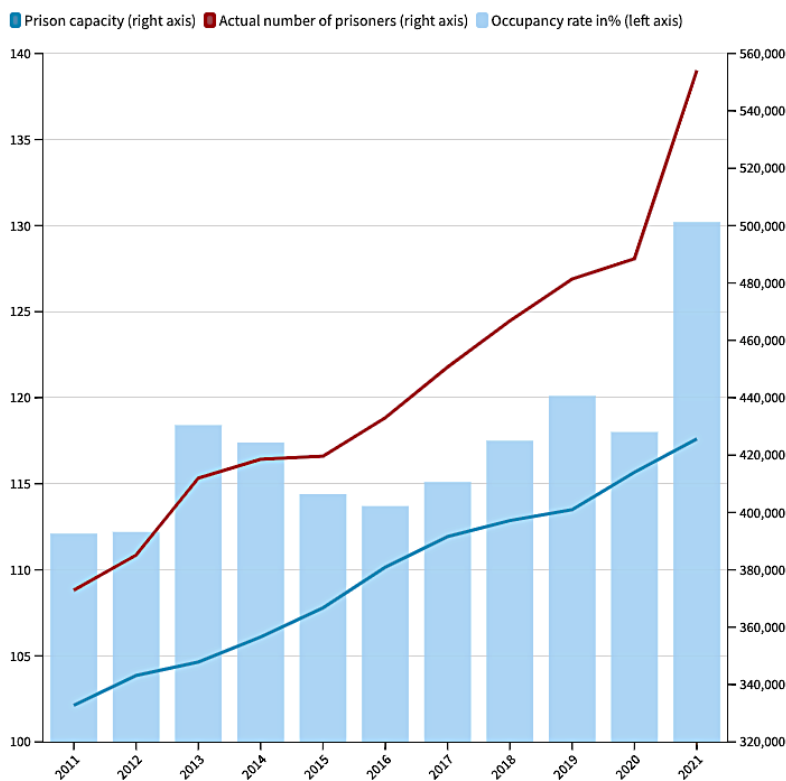
separation from families can lead to mental health issues; **(7) Psychological Issues**: Prolonged incarceration without trial can lead to **depression in undertrials**. Convicts lodged in overcrowded cells may suffer from panic attacks, stress, anxiety and claustrophobia among others. The prison thus worsens the situation rather than reforming the convict.

What are the challenges to Prison Reforms? – (1) Prisons are a **State subject**, this creates difficulty in having **uniform prison management**. The Union Government can only frame models for the States to incorporate and help in coordinating between States, encouraging them to **adopt best practices**. However, ultimately it is the **obligation of State Governments** to undertake the reforms; **(2)** Prisons in India are still governed by the colonial era **Prisons Act, 1894**. It treats prisoners as sub-par citizens, and **provides the legal basis for punishment to be retributive**, **rather than rehabilitative**; **(3)** There is a **lack of political will** to undertake reforms. Some experts argue that the provisions of the Representation of the People Act **exclude prisoners from the right to vote**. This disincentivizes the political leadership from taking concrete action for prison reforms.

International Covenants Related to Prisons/Prisoners

- ✅ **The Universal Declaration of Human Rights (1948)**
  It lays down principles of administration of justice.
  - No one should be subjected to torture or to cruel, inhuman or degrading treatment or punishment.
  - No one shall be subjected to **arbitrary arrest**, **detention** or **exile**.
  - Everyone charged with a penal offence has the right to be **presumed innocent until proved guilty according to law** in a public trial at which he has had all the guarantees necessary for his defence.
- ✅ **The International Covenant on Civil and Political Rights (ICCPR)**
  - It is the core international treaty on the protection of the rights of prisoners.
  - India ratified it in 1979 and is bound to incorporate its provisions into domestic law and state practice.
- ✅ **The International Covenant on Economic, Social and Cultural Rights (ICESR)**
  - It states that prisoners have a right to the highest attainable standard of physical and mental health.
  - It sets civil, economic, social and human rights for the prisoners.
- ✅ **Declaration on Protection from Torture (Adopted by the UNGA, 1975)**
  - This declaration acts in tandem with the human rights principles of an individual and protects that person from any kind of torture, or inhuman and cruel behaviour.
- ✅ **General UN directives**
  - The Body of Principles for the Protection of All Persons under Any Form of Detention or Imprisonment (1988) and the the Basic Principles for the Treatment of Prisoners (1990).

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What are the Recommendations by various Committees regarding Prison Reforms? – (1) Justice Mulla Committee (1983): (a) All India cadre for prison staff and bringing prison under the concurrent list; **(b)** Government should form a **National Policy on Prisons**; **(c)** Government to use alternatives to imprisonment such as community service etc.; **(2) Justice V. R. Krishna Iyer Committee on Women Prisoners (1987): (a)** Separate institutions with women employees alone for women offenders; **(b)** Separate institutions for women offenders; **(c)** Necessary provisions to **restore the dignity of women** even if convicted; **(3) Committee under the Chairmanship of Director General, Bureau of Police Research and Development (BPR&D) (2005)**: It used the reports of Justice Mulla Committee Report and Justice Krishna Iyer Committee and made several additional and new recommendations. It also drafted a **National Policy on Prison Reforms and Correctional Administration, 2007**; **(4) Justice Amitava Roy Panel on Prison Reforms**: The panel was appointed by the Supreme Court in 2018. It submitted its report in February 2020. **(A) Overcrowding: (a)** Special fast-track courts should be set

Judicial View Regarding Prison Reforms and Rights of Prisoners

- *Sunil Batra v. Delhi Administration (1978)*: The SC held that prisoners are entitled to all fundamental rights which are consistent with their incarceration.
- *Sunil Batra II (1983)*: The SC outlined the **substantive** and **procedural rights** to which the prisoners are entitled. The SC ruled that **solitary confinement**, **denial of basic amenities** etc. are **infraction of liberty** and life in wider sense and **can't be sustained**.
- *Rudul Shah v. State of Bihar (1983)*: If the trial against a prisoner concludes into acquittal, the prisoner can't be detained and must be **released as a matter of right**.
- *Sheela Barse v. State of Maharashtra (1983)*: The SC directed that the **victims of custodial violence** and prison injustice should be provided **legal assistance** at the cost of the State and **protected against torture** and maltreatment.
- *Sanjay Suri v. Delhi Administration (1988)*: The SC held that the prison authorities should change their attitude towards prison inmates and **protect their human rights**.
- *DK Basu v. State of West Bengal (1997)*: The **information of arrest** is required to be given to the friend or **relative of accused immediately**, so that they can start the efforts to obtain the legal advice and do the necessary preparation for bail.
- *Dharambir v. State of U.P (2010)*: The SC directed the State Government to **allow family members to visit the prisoners**; and for the prisoners at least **once a year**, to **visit their families** under guarded conditions.

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up to deal with petty crimes; **(b) Lawyers – Prisoners Ratio**: There should be at least **one lawyer for every 30 prisoners**; **(B) Under-staffing**: **(a)** The SC should pass directions to **start the recruitment process** against vacancies; **(b) Video-conferencing** should be used for trials; **(C) Prisoners**: **(a)** Every new prisoner should be allowed a **free phone call a day to his family members** to see him through his first week in jail; **(b)** Alternative punishments should be explored.

What should be the approach to Prison Reforms going ahead? – (1) It is imperative that **non-incarceration based solutions** be found to **address the overcrowding** in prisons e.g.: **(a)** Releasing inmates who are **sick or elderly**; **(b)** Lowering penalties; **(c) Allowing bail** to be set at prices that are affordable; **(d)** Employing **non-carceral methods** of holding people accountable for their crimes; **(e)** Speeding up the trial process; **(2)** The **criminal justice need to be reformed** as well. Additionally, there is a need to **enact a bail law** to make the provision of bail more objective, reducing subjectivity practiced by lower courts *(Refer EPIC July 2022 for The Supreme Court's Observations Regarding Provisions of Bail)*; **(3)** There is a need to make the **police forces more sensitive** and training them in emerging technologies as suggested by the PM in recent Police conference; **(4)** There should be **enhanced cooperation** between the **State Police and Central Agencies** to leverage capabilities and share best practices; **(5)** Important judicial decisions have broadly defined the contours of the human rights of prisoners, which must necessarily be **ensured in practice**.

The status of prisons and prisoners in India **remains dismal**. The Supreme Court has pronounced some **progressive Judgments** on the issue of rights of Prisoners. Multiple Committees have provided recommendations to **undertake prison reforms**. However, the **lack of political** will by Union and State Governments has stalled the process. While Judiciary can play a role in **reducing the number of undertrials**, broad prison reforms have to be **undertaken by the Governments**. The trend of rising proportion of undertrials and overcrowding of prisons indicate that the process of reforms can no longer be delayed.

2. Aspirational Districts Programme: Issues and Outcomes

News: The Government has launched Aspirational Blocks Programme based on success of the Aspirational Districts Programme.

What is the Aspirational Districts Programme (ADP)? – (1) It was launched in 2018 to **improve the socio-economic status of 112 aspirational districts** across 28 States; **(2)** These districts had witnessed the least progress along certain **development parameters**. The districts accounted for **more than 20% of the country's population** and covered over **8,600-gram panchayats**; **(3)** The Programme is **coordinated by NITI Aayog** with support from **Central Ministries and the State Governments**; **(4)** With ADP, the Government has tried to **change the development narrative** by referring to these districts as '**aspirational' instead of 'backward'**. The programme calls for **reimagining governance**, **providing greater ownership** and **accountability in the district administration**, **facilitating convergence** and **collaboration among the stakeholders** to contribute to the development process; **(5)** The programme measures the progress by **ranking districts on a monthly basis** to

Core Principles
The Aspirational Districts Programme is based on 3 Core Principles

Convergence of Central & State Schemes which brings together the horizontal and vertical tiers of the government.

Competition among districts driven by a spirit of the mass movement. Each district is ranked based on 49 performance indicators identified across the 5 core themes.

Collaboration among citizens and functionaries of Central & State Governments including district teams. This will enable impactful partnerships between government, market and civil society.

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promote competition. The **5 socio-economic themes** include: **(a)** Health & Nutrition; **(b)** Education; **(c)** Agriculture & Water Resources; **(d)** Financial Inclusion & Skill Development; **(e)** Basic Infrastructure.

What is the significance of the Aspirational Districts Programme? – (1) It has ensured that **States and districts have a greater say in their own development.** Local challenges **differ significantly across regions**. The State and Local Governments are best-positioned to **recognize development challenges**, and design customized policy interventions; **(2)** Instead of making a dedicated financial allocation, the programme has focused on improving governance, making use of existing resources more smartly and **achieving better outcomes for the same amount of money**; **(3)** Working collaboratively has enabled **innovative service delivery approaches**, currently limited to one or a few districts in the country, to be **replicated in other areas.** For instance, the smart classroom initiative being implemented in Banka, Bihar, to improve student learning outcomes, is being replicated in the aspirational districts across Bihar, Arunachal Pradesh, Odisha and Jharkhand; **(4)** By **collaborating with the private sector, philanthropic organizations and technical partners**, the ADP is changing the popular perception that development is the prerogative of the government alone. The partnerships are helping to **infuse the programme with new ideas,** and acting as force multipliers on outcomes; **(5)** It has also **spurred competition among districts** by allowing them to regularly assess their position vis-à-vis other aspirational districts as well as the best performing districts.

Framework and Core Strategy

Framework

- **NITI Aayog** anchors the program at Central level.
- **Individual Ministries** have been responsibility to drive progress in districts.
- The **State Governments** are the main drivers of the programme.
- For each district, a central *Prabhari Officer* has been nominated.
- *Prabhari* Officer should possess a rank of Joint Secretary or Additional Secretary.

Core Strategy

- Work on the **strength** of each district.
- Make development as a **mass movement** in these districts.
- Identify the **strength of each district** which can act as a **catalyst for development**.
- **Measure progress** and rank districts to spur a sense of competition.
- Districts shall **aspire** from becoming State's best to **Nation's best.**

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What are the achievements of the Aspirational Districts Programme? - The United Nations Development Programme (UNDP) has appreciated the programme's **3Cs principle** and recommended its replication in other parts of the developing world. The ADP has shown that if development is taken as a '*Jan Andolan*' and progress of a district is **constantly monitored**, success would follow: **(1) Health and Nutrition**: **(a) Model** *Anganwadi* **centres** have been set up across districts to **benefit women and children**. The number of institutional deliveries has increased, along with a dip registered in the rate of severe acute malnutrition in infants. Paschimi Singbhum (Jharkhand) has **raised registration of pregnant women from 39% in 2018 to 91% in 2022**; **(b) Poshan App** has been developed for an aspirational district in Ranchi. It is a **real-time data analytics** digital platform. It monitors bed occupancy, child-growth charts and the inventory of every malnourishment treatment centre in the district; **(c)** ADP also provided Assam's Baksa district with support to ensure that it can run **mobile health ambulances** during poor weather conditions so that access to healthcare service delivery is ensured; **(2) Education Outcomes**: The '*Hamara Vidyalaya*' model adopted in Namsai, (Arunachal Pradesh) has shown **substantial improvement in learning outcomes** and overall teaching practices. Under this model, a school *prabhari* is appointed for each school in the district to ensure monitoring, assessment and guidance. The model makes use of an online platform called '*Yathasarvam*' for improving the outcomes; **(3) Agriculture and Water Resources:** District administrations have laid emphasis on **improving irrigation facilities, yield**, and **farmer education**. Innovative paths have been adopted to create market linkages for products indigenous to the aspirational districts e.g., the farmers of Chandauli, U.P were encouraged to grow **fertiliser-free organic black rice.** The experiment has been a remarkable

success and Chandauli now exports to countries like Australia and New Zealand; **(4) Basic Infrastructure**: **(a)** There has been significant advancement especially in **LWE affected districts**. This ensured **better connectivity and seamless movement** from rural to urban regions e.g., **Bijapur in Chhattisgarh and Malkangiri in Odisha** have greatly improved the network of roadways and ramped up the infrastructure projects in their jurisdiction; **(b)** ADP enabled Chamba district (HP) administration to work with the Centre to ensure **robust**

RACING AHEAD

Out of 10 indicators in Health, 73 aspirational dstricts have surpassed their state averages. In many states, an aspirational district is the best in state.

telecom connectivity in the hard-to-reach areas; **(c)** Kupwara (J&K) has increased the percentage of secondary schools with **functional electricity** from less than 50% in 2018 to more than 95% in 2022; **(5) Financial inclusion and skill development**: **Micro-ATMs** have been launched in **Maharashtra's Gadchiroli district** to provide financial assistance to **women self-help group** members. They are provided with **commission-based income** on every transaction.

What are the issues associated with the ADP? – **(1) Inadequate Coverage**: Although the program is highly inclusive in nature it fails to capture crucial variables like **environment and gender**; **(2) Imbalance in Implementation**: Most districts channelised their efforts focused on health and nutrition, education, and agriculture and water resources. They paid **less emphasis on the sectors of Skill Development and Financial Inclusion**; **(3) Budgetary Constraints**: ADP is affected by the issue pertaining to **insufficient budgetary resources**. This sustains the **lack of human resources** and **dearth of technical capacities** at the district and block level; **(4) Issues in Coordination**: NITI Aayog plays a mentoring role in 27 districts in 8 states. 12 Central Government Ministries have **similarly adopted the remaining districts**. Implementation involving multiple ministries leads to a lack of coordination; **(5) Shortcomings of Ranking**: It is largely focused on **assessing quantity** (that is, coverage of access) **rather than quality** e.g., timely delivery of textbooks in schools is **part of the ranking index** however very less weightage is given to the **quality of education**.

What steps can be taken going ahead? – **(1)** Special focus is required in sectors like **health, nutrition and education** to recover lost ground due to the COVID-19 pandemic; **(2) Governance mechanisms** in challenging districts need to be **strengthened**. For instance, analysis has shown that districts perform better when the tenure of key officials like the District Magistrate, Chief Medical Officer, District Agriculture Officers etc. are stable. It is also crucial that **vacancies for these key positions are regularly filled** by the state authorities; **(3)** Emphasis must be placed on **extending the ADP template to under-developed blocks and districts** which are lagging behind in social indicators; **(4)** The first UNDP appraisal of the Aspirational Districts Programme has recommended a **realignment of sectors** under the program. It calls for the addition of topics such as **environment and gender**.

3. Child Mortality in India

News: According to the Report *Levels and Trends in Child Mortality* released by the UN Inter-agency Group for Child Mortality Estimation (UNIGME), India accounted for 14% and 19% of global under-5 and neonatal deaths in 2021. Most of these deaths are preventable.

What are the reasons for high Child Mortality in India? – (1) Poor Infrastructure: Lack of appropriate facilities at primary healthcare centres, **delays in referrals** [to specialists] and **lack of transportation** lead to high infant deaths; **(2) Poor Nutrition**: Pregnant women in poor families **lacks access to adequate nourishment** during pregnancy. This results in **complications in pregnancy and child-birth**. It also leads to **nutrition deficiency** in the child; **(3) Lack of Skilled Personnel**: There is **shortage of doctors, nurses,** and other staff in rural areas. This hinders **regular supervision** and **timely referral** of women to emergency obstetric care when complications are

Child Mortality: Definition and Status

Child Mortality
- Child Mortality is the death of children **under 5 years** of age.
- **Under-5 Mortality Rate** refers to the probability a newborn would die before reaching exactly 5 years of age, expressed **per 1,000 live births** (UNICEF).
- **Infant Mortality Rate (IMR)**: Probability of dying between birth and exactly 1 year of age, expressed per 1,000 live births.
- **Neonatal Mortality Rate (NMR)**: Probability of dying during the first 28 days of life, expressed per 1,000 live births.

Status
- The NMR is 23 in rural areas and 12 in urban areas.
- The IMR is 31 in rural areas and 19 in urban areas.
- **6 States/UTs** (SRS 2020) have attained **SDG target of NMR** (<=12 by 2030). These are Kerala (4), Delhi (9), Tamil Nadu (9), Maharashtra (11), Jammu & Kashmir (12) and Punjab (12).
- **11 States/UTs** have attained **SDG target of U5MR** (<=25 by 2030). These are Kerala (8), Tamil Nadu (13), Delhi (14), Maharashtra (18), J&K (17), Karnataka (21), Punjab (22), West Bengal (22), Telangana (23), Gujarat (24), and Himachal Pradesh (24).

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INDICATOR	SRS 2014	SRS 2019	SRS 2020
Crude Birth Rate (CBR)	21.0	19.7	19.5
Total Fertility Rate	2.3	2.1	2.0
Early Neonatal Mortality Rate (ENMR) – 0- 7 days	20	16	15
Neonatal Mortality Rate (NMR)	26	22	20
Infant Mortality Rate (IMR)	39	30	28
Under 5 Mortality Rate (U5MR)	45	35	32

diagnosed; **(4) Education and Awareness Deficit**: Women in poor families **lack awareness** about requirements of nutrition. They are unaware of other precautions required during and after childbirth. They **rely more on traditional midwives** in comparison to modern healthcare; **(5) Child Marriage**: Child Marriage leads to **early pregnancy** (younger age) and **more frequent pregnancies** etc. Children born to early pregnancies are **more vulnerable to death at early age** (*Refer EPIC November 2022 for the Issue of Child Marriage in India*); **(6) Premature Births**: Premature birth refers to child **born before 37 weeks of pregnancy**. Premature or 'Preterm Babies' are **2-to-4 times at higher risk of death after birth** in comparison to those born after 37 weeks of gestation.

What steps have been taken to reduce Child Mortality? – (1) National Rural Health Mission: Under NRHM, New-born Baby Care Corners, New-born Stabilisation Units at Community Health Centres and Special New-born Care Units at District Hospitals have been created; **(2) Integrated Child Development Services (ICDS) Scheme**: The **target beneficiaries** are children in the **age group of 0-6 years**, pregnant women and lactating mothers. Its objectives are to **improve the nutritional and health status** of children in the age-group 0-6 years and to **reduce the incidence** of **mortality**, **morbidity**, **malnutrition** and **school dropout**; **(3) Capacity Building of Health Care Providers**: Various trainings are being conducted under NRHM to **train doctors, nurses** and **ANMs** for early diagnosis and case management of common ailments of children. These trainings are being undertaken under the **Integrated Management of Neonatal and Child Illness**, *Navjat Shishu Suraksha Karyakram* (NSSK) etc. Funds and technical support are provided by

the Government of India **under NHM** to the States for conducting these trainings; **(4) Home Based New-born Care (HBNC)**: It is being provided through ASHA workers. It purpose is to **improve new-born practices at the community level** and **early detection and referral** of sick new-born babies; **(5) Universal Immunisation Program (UIP)**: It was first introduced in 1985. Under UIP, immunization is provided **free of**

Management of Malnutrition

Malnutrition reduces resistance of children to infections and increases mortality and morbidity. National Health Management is emphasising management of malnutrition to reduce morbidity.

- **Nutritional Rehabilitation Centres** have been established for management of severe acute malnutrition.
- **Exclusive breastfeeding** for first 6 months and **appropriate feeding practices** are being promoted in convergence with Ministry of Woman & Child Development.
- Ministry of Health & Family Welfare has launched '**MAA: Mothers Absolute Affection**' programme in August, 2016 for improving **breast feeding practices** (*Initial Breastfeeding within 1 hour, Exclusive Breastfeeding up to 6 months and Complementary Breastfeeding up to 2 years*).
- **National Nutrition Mission**: It is Government's flagship programme to improve nutritional outcomes in children, pregnant women and lactating mothers. It aims to reduce stunting and wasting by 2% per year (total 6% until 2022) among children and anaemia by 3% per year (total 9% until 2022) among children, adolescent girls and pregnant women and lactating mothers.
- **Management of Anaemia in Children**: National Iron Plus Initiative (NIPI) has been launched based on the life-cycle approach and it covers all age-groups.

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cost against 12 vaccine-preventable diseases; Nationally against 9 diseases: Diphtheria, Pertussis, Tetanus, Polio, Measles, Rubella, Hepatitis B, and Meningitis and Pneumonia; Sub-nationally against 3 diseases: Rotavirus diarrhoea, Pneumococcal Pneumonia, and Japanese Encephalitis. **Intensified Mission *Indradhanush*** (IMI)-2017 (recent version 4.0) has been launched to **strengthen and re-energize the programme** and achieve **full immunization coverage** for all children and pregnant women at a rapid pace; **(6) *Matritva Sahyog Yojana***: It is a **conditional Maternity Benefit** (CMB) Scheme. It was launched for **pregnant and lactating women** to improve their health and nutrition status by providing cash incentives; **(7) Policy Targets**: In the National Health Policy (NHP) of 2017, the Government had committed to investing **2.5% of the GDP** on health by 2025. Child Health Goals under SDG include **Goal 3.2**: By 2030, end preventable deaths of new-born and children under 5 years of age. The aim is to **reduce neonatal mortality** to at least **12**

PT BOX
Paalan 1000
'Protecting Mothers: *Paalan* 1000 - Journey of the First 1000 Days', focuses on the **cognitive developments of children** in the first 2 years. PAALAN 1000 parenting app provides caregivers with practical advice on what they can do in their everyday routine and helps resolve the various doubts of parents and directs efforts in the development of a child.

per 1000 live births and under-5 mortality to at least **25 per 1000 live births**. India's own NHP targets NMR of 16 and U5MR of 23 by 2025.

What more steps can be taken to reduce Child Mortality? – (1) Since ~50% of all under-5 deaths are among new-borns, many can be prevented by providing higher coverage of **good quality antenatal care**, skilled care at birth, **postnatal care** for the mother and the baby, and care of small and sick new-borns; **(2)** Many child deaths are preventable through cost-effective interventions such as **kangaroo care** (*babies are kept in skin-to-skin contact with the mother*), thermal control, breastfeeding support and basic care against infections and breathing difficulties. Enhancing awareness about these techniques in new mothers can help avoid these preventable deaths; **(3)** Government should **address the neglected challenges** like **Still-births** and **pre-term births**; **(4)** India's health system needs **Government funding**. At present, it is ~ 1.5% of the GDP. The poorest and marginalised families bear the brunt of low spending and poor provisioning of services. Enhancing spending on healthcare can rectify these shortcomings; **(5)** States should cooperate with each other and **share the best practices amongst themselves**, e.g., the practices of Kerala can be replicated in other states like West Bengal, Bihar, Assam etc.; **(6)** Government should provide **greater incentives to ASHA workers** who can raise awareness among the masses about the modern healthcare

systems. Government can enter into agreements with private medical colleges and induce greater numbers of doctors to serve in rural areas.

Child Mortality has improved a lot in last 2 decades. However, there is still a scope for lot of improvement. Learnings from successful initiatives must be used in **designing future interventions**. Healthcare spending must be enhanced. ASHA workers are a crucial lever in the rural healthcare set-up. Their concerns should be adequately addressed, including **enhancing their remuneration**. Their role will be crucial in ensuring the achievement of the healthcare targets under the SDGs.

4. ASER Survey 2022: Widening Learning Gaps

News: The Annual Status of Education Report (ASER) 2022 has been released by Pratham (an NGO).

What are the key findings of ASER 2022? –
(1) Increase in school enrolment: Despite the prolonged closure of schools, the **overall enrolment** in schools across the country has increased at all levels, with **98.4% in the age group of 6-14 years** currently enrolled in schools. The figure stood at 97.2% in 2018; **(2)**

> **PT BOX**
> **ASER**
> ASER is a household survey conducted across 616 rural districts covering 6.9 lakh children in the 3-to-16 age group to record their **schooling status** and assess their **basic reading** and **arithmetic skills**.

Increase in Girl Enrolment: The proportion of girls not enrolled in schools has also reduced across age groups. For girls aged 11-14, this **share dropped from 4.1% in 2018 to 2% in 2022**; **(3) Drop in Learning levels**: Between 2014 and 2018, learning levels had been rising gradually e.g., the proportion of Class 3 students who could read a Class 2 textbook had gone up from 23.6% in 2014 to 27.2% in 2018. However, in 2022, the basic reading ability of children in Class 3 dipped by 6.8% points from 2018. The pandemic has resulted in a **learning loss**. The loss is much greater in reading as compared to arithmetic; **(4) Increase in children availing private tuitions**: Between 2018 and 2022, the proportion increased from 26.4% to 30.5%; **(5) Enrolment in Government Schools**: The percentage of children aged 11 to 14 who are enrolled in government schools has risen from 65% in 2018 to 71.7% in 2022. This can be attributed to several factors, including **job losses** and the **closure of budget private schools** in rural areas during the pandemic.

What are the positive takeaways from ASER 2022? –
(1) Enrolment for 6-14 years group increased to 98.4%. It means **more students can benefit** from schooling for longer, sustained periods; **(2)** The proportion of **out-of-school girls has fallen to 2%**; **(3)** Completion of the **entire cycle of 8 years** of schooling for **25 million students** is a significant achievement; **(4)** The Survey notes that most schools, including in rural areas, **'attempted to keep learning going'** with digital resources; **(5)** A comparative analysis of **learning**

KEY TAKEAWAYS

- Proportion of children in govt schools up from 65.6% in 2018 to **72.9% in 2022**
- Children taking private paid tuitions up from 26.4% in 2018 to **30.5% in 2022**
- Reading levels down to pre-2012 levels – only

ENROLMENT IN 6-14 AGE GROUP AT A RECORD HIGH:
98.4% children now enrolled in school, up from 97.2% in 2018

20.5% children in Class 3 can read a Class 2 textbook, down from 27.3% in 2018

outcomes during the pandemic and post-pandemic years in West Bengal, Karnataka and Chhattisgarh highlights that States have **reversed their learning losses** significantly in 2022.

What are the key concerns raised by ASER? – (1) Low levels of skills: ASER evidence suggests that basic learning levels of middle school children have **remained low and stagnant** for over a decade. The 'value added' each year of middle school is small; **(2) Vulnerability of the most disadvantaged households**: The largest increase in children taking tuition was in the most disadvantaged households. This raises the

question about the **efficacy of remote learning** and technological solutions to a crisis of **access and inequality**. So, there is a sign of the p**ersistent demand** for good education among vulnerable sections; **(3) Intergenerational learning loss**: Junior school kids are found to have **lost elementary skills**. Educationists fear that the learning loss caused by the pandemic might be **intergenerational**, with grave consequences for the economy and society; **(4) Stress of Competition**: Increase in enrolment in middle and secondary levels indicates **increased**

IN PANDEMIC YEARS, BASIC READING WAS HIT HARDER THAN MATHS

- Able to at least read at Grade II level
- Able to at least do subtraction (2 digit with borrowing)

NIPUN Bharat goal is to have all children by Gr III with foundational literacy, numeracy

Year	Reading	Maths
2010	21.4	26.3
2014	23.6	25.3
2016	25.1	27.6
2018	27.2	28.1
2020	Covid Years	
2022	20.5	25.9
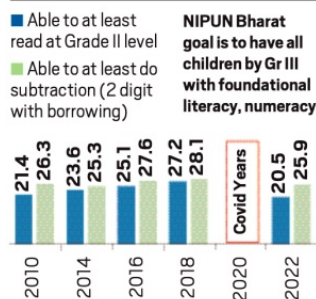
PROPORTION OF GIRLS AGED 15-16 WHO ARE NOT IN SCHOOL HAS DROPPED SINCE 2018

Halved in most states that had more than 20% girls out of school in 2006

2016 2018 2022
16.1% 13.5% 7.9%

Source: ASER 2022

competition for post-secondary opportunities. Acute **examination stress, grade inflation** in school-leaving examinations, difficulties in gaining admissions into college and lack of **appropriate jobs** for many school-leavers are consequences of high enrolment and completion rates. Unless children have strong foundational skills, they cannot acquire higher level skills or develop advanced content knowledge.

What are the reasons for the dismal performance according to ASER Report? – (1) An '**overambitious**' **curriculum** and the **linear age-grade organisational structure** of Indian schools lead to a vast majority of children getting 'left behind' early in their school career; **(2) Low motivation** to learn and a **lack of self-confidence** contribute to dismal performance; **(3)** The school system is **driven by preparations** for Board examinations. **Academic content transacted** in schools does not mean that the students are ready for college. Further, a college degree is neither relevant nor possible for most students who finish secondary school.

What should be done to improve the situation? – (1) It is time to **rethink and rework children's educational plans** once they grow past the foundational stage of schooling to fulfil the National Education Policy targets and NIPUN Bharat missions; **(2) Special focus on marginalised sections**: Introducing the concept of **One-to-one tutoring** for the most disadvantaged learners can be beneficial e.g., the National Tutoring Programme of the UK. In Italy, university students are volunteering to **conduct one-on-one classes** for middle school children from poor immigrant backgrounds; **(3) Empowering teachers** and reaching out to students in their homes can **significantly improve learning outcomes**.

Overall, there is a need to frame a system that synergises the roles of the home and classroom is the key to improving the Indian educational system.

5. Issues Faced by Domestic Workers in India
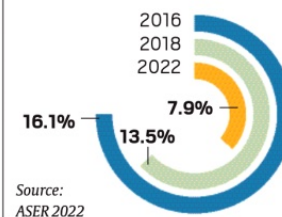
News: The abuse faced by a domestic worker in her employer's home in Gurgaon has sparked outrage. It shows the poor working conditions faced by domestic workers in India.

What is Domestic Work? - According to the International Labour Organisation (ILO) **Domestic Workers Convention**, 2011, Article 1: **(1)** The term 'domestic work' means work performed **in or for a household**(s); **(2)** The term 'domestic worker' means any person **engaged in domestic work** within an employment relationship; **(3)** A person who performs

CATEGORISATION OF DOMESTIC WORKERS

Category	Definition
Part-Time Worker	Works for more than one employer for a specified number of daily working hours or performs specific tasks for each of the multiple employers everyday.
Full-Time Worker	Works for a single employer everyday for a specified number of hours, and returns to her/his home every day after work.
Live-In Worker	Works full time for a single employer and stays in the premises of the employer or in a dwelling provided by the employer and does not return to her/his home every day after work.

domestic work only **occasionally or sporadically** and not on an occupational basis is not a domestic worker; **(4)** Based on everyday working hours and nature of employment, domestic workers are classified into **part-time, full-time and live-in** workers.
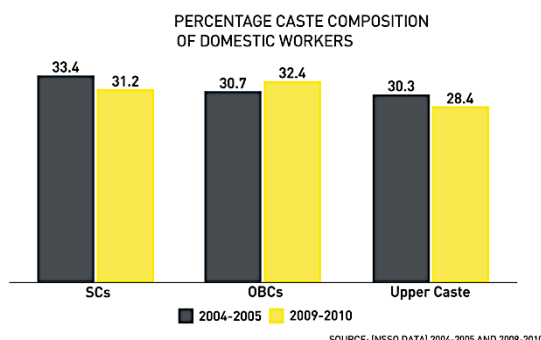
Status of Domestic Workers

- It is estimated that there are **4.8 million domestic workers** including 2.9 million female domestic workers. However, according to the National Domestic Workers' Movement, the number of domestic workers **exceeds 50 million**.

- Domestic workers form the third-largest category of workers after agriculture and construction.

- More than 66% of the workers are working in **urban areas**.

- The **share of women and girls** in domestic work is **rising at a rapid pace**, accounting for 75% increase in the number of workers in the last decade.

- The majority of domestic workers in India are **illiterate/minimally educated** and low-skilled. **~200,000 children** are employed as domestic help and in *dhabas*.

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What are the challenges faced by Domestic Workers in India? – (1) Poor Working Conditions: **(a)** Domestic workers are **denied minimum wages**; **(b)** They lack any **social security cover**; **(c)** Workers are exploited to work for long hours; **(d)** Live-in workers are more vulnerable to physical abuse and harassment; **(e)** Most domestic workers are poor migrants with **no other skills** and belong to the repressed communities; **(2) Lack of Laws to Protect Rights**: The domestic workers are **not comprehensively covered by any Act**. The National Commission for Women had drafted the **Domestic Workers (Registration, Social Security and Welfare) Bill** in 2008-10. The Bill had sought to cover various aspects like wages, working conditions, offences and penalties, and creation of Domestic Workers Welfare Fund among others. However, the Bill wasn't passed. The **Draft Policy on Domestic Workers has been waiting for approval** since 2017; **(3) Issues in Implementation**: Domestic work has been added to the list of scheduled employment under the **Minimum Wages Act, 1948**. However, the implementation remains poor. Only 13 States/UTs have passed legislation for minimum wages for domestic employees. Laws like Industry Disputes Act, 1947, the Employee's Provident Fund Act, 1952, and the Factories Act, 1948, **do not recognise the labour performed by domestic workers in private households as** '**work**'; **(4)** The **Unorganized Workers' Social Security Act, 2008**, requires all States to establish **welfare boards** to ensure domestic workers receive benefits. However, several States have not complied with the requirement; **(5) Insufficient Data**: There is **large variation** among estimates about **number of domestic workers**. The absence of data acts as a barrier to the formulation of appropriate plans and the allocation of resources for the improvement of the conditions of domestic workers; **(6) Informal Placement Agencies/Housekeeping Companies**: The companies that provide domestic workers function in an informal manner. **Lack of scrutiny** of their functioning contributes to the exploitation of the workers; **(7) Poor Unionisation**: Lack of unionisation **reduces their bargaining power** to demand better wages. In the absence of any union, **no support mechanism** is available to workers facing exploitation and physical abuse.

PERCENTAGE CASTE COMPOSITION OF DOMESTIC WORKERS

SCs: 33.4 (2004-2005), 31.2 (2009-2010)
OBCs: 30.7 (2004-2005), 32.4 (2009-2010)
Upper Caste: 30.3 (2004-2005), 28.4 (2009-2010)

2004-2005 | 2009-2010

SOURCE: [NSSO DATA] 2004-2005 AND 2009-2010

What more steps should be taken going ahead? – (1) There is a need for greater **social and political commitment** to address the challenges faced by domestic workers. In the absence of such commitment, the abuse will continue; **(2)** Due to **differences among categories** of domestic workers (like part-time, live-in etc.), the methods of determining minimum wages are complex. There is a **need to standardise** the type and amount of work performed; **(3)** The **data regarding migrant workers** must be improved. This will help in better assessment regarding the status of domestic workers; **(4)** There is need for **better cooperation**

among States to address the issues faced by migrant workers. The Parliament can enact a **draft Model Act** which can be suitably adapted by States; **(5)** A report by the Commonwealth Human Rights Initiative (CHRI) recommends that the **Government should formulate a binding National Policy on Domestic Workers**; **(6)** Government has developed an **Integrated National Plan of Action against Trafficking** and has set-up Integrated **Anti-Trafficking Units** and **Anti-Trafficking nodal cells**. However, there is a need for a **more comprehensive legislation on labour trafficking**.; **(7)** The CHRI Report recommends that the Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act of 2013, must be reviewed to improve complaint mechanisms for domestic workers; **(8)** There is a need to sustain and support organizations for domestic workers to improve their bargaining power. Civil society should take the lead in **encouraging collective action** among the workers.

The Union and State Governments must step in to **formulate comprehensive policy** and legislation to protect their rights. Violation of rights of workers should be dealt with strictly. At the same time, there is a need for **greater sensitization** to prevent instances of physical abuse.

6. India-Egypt Relationship

News: The President of Egypt recently visited India. The two nations have agreed to elevate the bilateral relationship to 'strategic partnership'.

What is the significance of Egypt to India? – (1) Egypt's Strategic Location: The Suez Canal is a major **transportation link** in marine trade, handling about 12% of all international trade. It serves as a **gateway to both Europe and Africa**. India's business community can profit from Egypt's **advantageous location** as a hub for production and re-export; **(2) Energy Resources**: Petroleum Oil (46.2%) and Petroleum Gas (11.1%) were **India's top imported items** from Egypt in fiscal 2020-21. Egypt can be a **reliable partner** in fulfilling India's energy needs; **(3) Egypt's Influence in the Arab World**: The League of Arab States (Arab League) is **headquartered in Cairo**, the capital of Egypt, demonstrating its influential position in the Arab world. Arab League includes countries like **Saudi Arabia, UAE, Oman, Bahrain, Iraq, Kuwait** etc. all of which have strategic importance. Egypt has productive diplomatic ties with the West. India views Egypt's diplomatic capital as extremely important. India can anticipate Egypt, as a responsible Arab power, providing the necessary assistance to it in contentious situations; **(4) Egypt's Influence among the Islamic Nations**: India views Egypt as a **moderate Islamic voice** among Muslim-majority countries, as well as a '**friend' within the Organisation of Islamic Cooperation (OIC).** Pakistan uses OIC meetings as a platform to spread negative propaganda against India. A friendly Egypt can counter Pakistan's narrative; **(5) Shared Concerns**: Both **India and Egypt view** the spread of **violence, terrorism, and extremist ideology as a serious threat** to global peace. **(6)** As a result of manifold convergences, **India and Egypt have decided to elevate their ties to strategic level.**

What are the areas of cooperation in India-Egypt Relationship? – (1) Trade and Investments: The **India-Egypt Bilateral Trade Agreement** has been in operation since March 1978 and is based on the **Most Favoured Nation clause**. Bilateral trade stood at US$ 7.26 billion in FY2021-22. India's exports to Egypt **amounted to US$ 3.74 billion**. Egypt's exports to India have touched US$ 3.52 billion. According to the

Egyptian authorities, India was the 6th most important trading partner for Egypt in FY2021-22. At present, more than **50 Indian companies have investments in Egypt** totalling more than **US$ 3.15 billion**. There are many **potential projects** to establish overseas investments like the Metro projects in Cairo and Alexandria, **the Suez Canal economic zone**, among others. The Egyptian Government is considering allocating a special area of land in the Suez Canal Economic Zone (SCEZ) for Indian industries; **(2) Russia-Ukraine conflict** had threatened Egypt with a **shortage for wheat**, 80% of which is imported from Russia and Ukraine. In April 2022, Egypt announced inclusion of India in the list of **accredited wheat suppliers to Egypt** and **ended a long Non-Tariff Barrier**. Bilateral mechanisms are in place to **facilitate trade and economic relations** between India and Egypt. The Indian Mission to Egypt regularly holds meetings at various fora for commercial collaboration; **(3) Technical and Scientific Cooperation**: Government has been undertaking several projects related to technical and scientific cooperation like the **Pan Africa e-Network Project**, **Pan Africa Tele-medicine and Tele-education** project, **Solar electrification** project and Vocational Training Centre for **Textile Technology**, **IT Centre** in Al Azhar University, CEIT, etc. ICAR and the Agricultural Research Center of Egypt are working in the field of **agricultural research**; **(4) Space cooperation** is an emerging vertical of cooperation in India-Egypt Relationship. Joint Working Group meetings and discussions between **ISRO and NARSS** (National Authority for Remote Sensing and Space Sciences) have been held, since 2008; **(5) Defence Relations**: There was **close cooperation** between the Air Forces, with **joint development of a fighter aircraft in 1960s**. IAF pilots also trained Egyptian pilots from 1960s until 1984. Since 2015, there have been several **high-level exchanges** of visits by defence delegations. India and Egypt undertake **multiple bilateral exercises** for all three services on a regular basis; **(6) Cultural Relationship**: The **Maulana Azad Centre for Indian Culture** (MACIC) was set up in Cairo in 1992 to **promote cultural cooperation** between the two countries, through the implementation of the **Cultural Exchange Programme** (CEP). The Centre, in addition to popularizing Indian culture through Hindi, Urdu and Yoga classes and the screening of movies, also organizes cultural festivals. The **'India by the Nile' (IBN) annual cultural festival has emerged as the largest foreign festival in Egypt**. Three streets in Cairo are named after Indian leaders namely, **Mahatma Gandhi, Pandit Nehru and Dr. Zakir Hussein**. At present, the Indian community in Egypt numbers at ~3200, most of whom are concentrated in Cairo.

What are the challenges in India-Egypt Relationship? – (1) Egypt is being seen as **getting close to China**. The Egyptian President has **visited China 7 times in the past 8 years**, including for the Beijing 2022 Winter Olympics. **China-Egypt trade** is more than **double of India-Egypt bilateral trade**. Chinese investments outnumber India's investments. Chinese influence over Egypt is not a good development from Indian perspective; **(2)** Egypt is facing **domestic economic instability**. The Government is battling **high inflation**, which has resulted in **historically high prices** of commodities and daily-use items. Forex reserves are also in bad shape. Prolonged economic instability may lead to **mass discontent** and movement similar to 2011 revolution. A new regime (like that came to power in 2013) may not be in India's **strategic interests**.

What can be done to strengthen India-Egypt Relationship? – (1) India and Egypt had lead the way in establishing NAM in the 1950s. Amidst geopolitical uncertainties of present times, India and Egypt should collaborate to **strengthen the South-South Cooperation** and call for a **rules-based global order**. India's PM had remarked in 2015 that India and Egypt should work together to **reform the UN Security Council** *(Refer EPIC October 2022 for Reforms in the United Nations Security Council)*; **(2)** India should scale-up its investments in Egypt. Egypt is a gateway to both Arab World and Africa. Closer economic ties with Egypt can pave way for greater investments and cooperation with African nations; **(3)** India should look to **expand the scope of defence relationship** from bilateral exercises to joint development/manufacturing projects. Egypt can be a potential destination for **India's defence exports**; **(4)** India and Egypt should further enhance cooperation to counter terrorism and radicalism.

Egypt holds **strategic importance for India**. Both nations have shared a strong relationship since ancient times. India and Egypt were the **leading countries for the NAM**. However, the India-Egypt relationship had witnessed a **phase of inactivity and passiveness after the 1990s**. There is need to renew the relationship with a new vigour. India and Egypt should collaborate to strengthen the **voice of Global South** at the global level and push for a rules-based global order in a multipolar world.

7. India-Maldives Relationship

News: The External Affairs Minister of India recently visited Maldives. The two countries signed pacts on several development projects.

What is the significance of Maldives to India? – (1) Geographical Location: Maldives is strategically located in the gateway between the chokepoints of Western (Gulf of Aden and the Strait of Hormuz) and Eastern (Strait of Malacca) Indian Ocean; **(2) Economic Significance**: It is strategically located at the crossroads of several **important trade routes** that run through the Indian Ocean. More than **97% of India's total inter-national trade** by volume and 75% by value passes through this region; **(3) Strategic Significance**: China is rapidly undertaking naval expansion into the Indian Ocean. Maldives is now at the centre of geopolitical affairs at a global scale. Maldives is a party to the South Asian Association for Regional Cooperation **(SAARC)** and the **South Asia Subregional Economic Cooperation** (SASEC); **(4) Security**: Under the Presidency of Abdullah Yameen, there was a rapid **rise in radicalization**. Maldives was responsible for one of the highest numbers of foreign fighters in Syria in per capita terms. Yameen's Government (2013-18) also had a very **prominent pro-China tilt** which was detrimental to India's interests in the Indian Ocean Region; **(5) Indian Diaspora**: There is a **sizeable population of people** descended from India living in Maldives. There are numerous Indians employed in the Maldives' education and medical care systems, as well as in the tourism and hospitality sector.
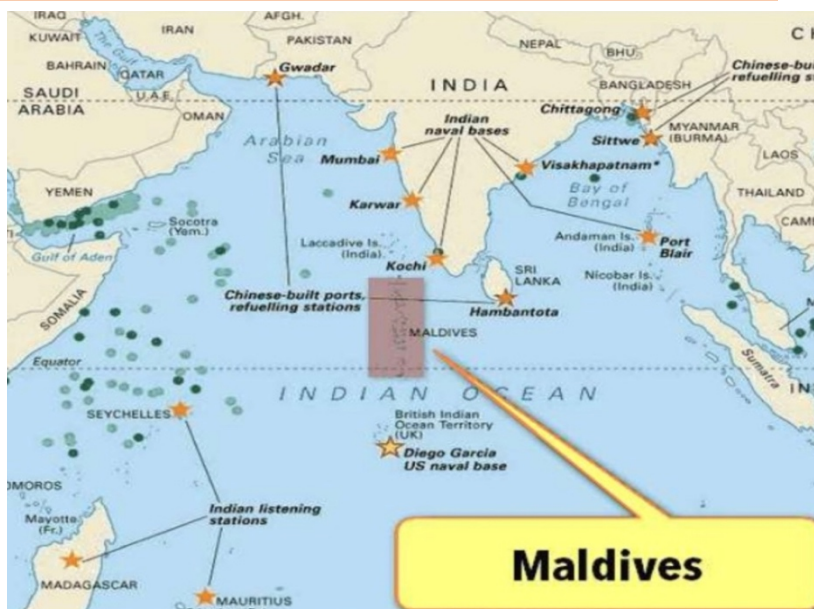
How has the India-Maldives Relationship evolved? – (1) India and Maldives have **close cultural relationship** since ancient times; **(2)** India was one of the first nation to **recognize Maldives' status** after it gained independence from British rule in 1966. Both countries quickly established diplomatic relations. Since then, India and the Maldives have developed close **military, economic, and cultural relationship; (3)** The relationship has largely remained free of any politically contentious issues. The one-time claim to Minicoy Islands by Maldives was resolved by the **Maritime Boundary Treaty** (1976) whereby Maldives has recognized Minicoy as an **integral part of India; (4)** India and Maldives signed comprehensive trade agreement in 1981; **(5)** In 1988, there was an **attempt to overthrow the Government of Maldives**. The coup attempt was made by **local Maldivians assisted by mercenaries** from a Tamil secessionist group from Sri Lanka. The Indian Armed Forces launched **Operation Cactus** and thwarted the coup; **(6)** India was the first country to **assist Maldives after the 2004 Tsunami** as well as the **water crisis in Malé in December 2014**. India's timely interventions has laid the foundation of a **strong India-Maldives Relationship; (7)** There has been a notable expansion in the level of cooperation between India and Maldives since the 1990s. India built the **Indira Gandhi Memorial Hospital in Malé (capital)**. During the COVID-19 crisis, India offered Maldives assistance in the form of **vaccines, financial, material, and logistical support** etc.

Historical Relationship between India and Maldives

- India and Maldives have close cultural relationship since ancient times.
- The name Maldives is of **Sanskrit** origin (*Mala* (garland) + *Dweep* (Island)).
- There is reference of Maldives in ancient texts like ***Mahavamsa***.
- The islands are believed to have been inhabited as early as **5th century BC** by settlers from Sri Lanka and Southern India.
- The origins of ***Dhivehi*** (the Maldivian language) traces back to **Sanskrit** and **Pali**.
- There were **close trade relationships** between India and Maldives during ancient and medieval times.

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What are the areas of cooperation in India-Maldives Relationship? – India's policy of **'Neighbourhood First'** and the Maldives' policy of **'India First'** appear to be perfectly aligned: **(1) Security Cooperation**: Maldives relies heavily on **trilateral maritime security cooperation** with India and Sri Lanka to counter maritime security threats such as **illicit trafficking**, **piracy**, and **illegal and unregulated** (or unreported) **fishing; (2) Military Cooperation: (a)** India has donated Landing Assault Craft and 24 Utility Vehicles to Maldives in order to bolster maritime security; **(b)** A grant assistance of **US$ 50 million Line of Credit facility** has also been approved for carrying multiple defence projects; **(c)** A comprehensive **Action Plan for Defence** was signed in April 2016. India provides for **~70% of defence training requirements** of the Maldivian National Defence Force (MNDF); **(3) Economic Cooperation: (a)** India and the Maldives have signed multiple bilateral agreements like US$ 500 million in grants and financing to support **maritime connectivity**, a US$ 800-million **line of credit** and an agreement on exchanging information on the movement of commercial maritime vessels; **(b)** India has become **2ⁿᵈ largest trading partner of Maldives; (c)** The economy of Maldives is almost entirely dependent on the tourism sector. Maldives is an important tourist destination for many Indians; **(4) Infrastructure Cooperation: (a)** India is the partner for the **Greater Male Connectivity Project**. It aims to connect multiple islands through a **series of bridges, causeways and roads**. The project is crucial for the Maldivian economy **through jobs and economic activity; (b)** India will construct **61 police infrastructure** across Maldives to ensure the safety of the communities in the islands; **(c)** Indian-Maldives are carrying **strategic harbour projects** including the development of a dockyard facility and a harbour for the coast guard of the MNDF; **(d)** India is also undertaking **Airport Redevelopment Project** at the **Hanimaadhoo International Airport; (5) Humanitarian Assistance**: India has provided **humanitarian assistance** like vaccines for COVID-19 pandemic, two sea ambulances, construction of hospitals etc.; **(6) Education and Technology Cooperation**: The **National Knowledge Network** has established connections with the research institutions of the Maldives. India has

built institutions like **National College for Policing and Law Enforcement** and provided books to more than 250 schools.

What are the challenges in the India-Maldives Relationship? – (1) While the incumbent President Ibrahim Mohamed Solih has a very prominent **pro-Indian approach**, the political opposition under former President Abdulla Yameen is seen as **anti-India**. Abdulla Yameen had allotted lot of development projects to China during his tenure; Abdulla Yameen also led the 'India Out' Campaign. He is opposed to India's military presence in Maldives; **(2)**

Chinese Influence: China has **enhanced its influence** in Maldives (and in Indian Ocean). Maldives is an **essential 'pearl' in China's 'String of Pearls' strategy**; **(3) Radicalisation**: A large number of Maldives' citizens had joined violent extremist organisations such as the **Islamic State** (IS). There has been a **steady rise in recruits** joining jihadi groups in Pakistan over the last decade. There is now a **greater risk** that terrorist organisations based in Pakistan will use the Maldives as a **staging ground for attacks** on India and Indian assets.

What can be done to enhance India-Maldives Relationship? – (1) India should enhance **development assistance** to Maldives. India should target projects that have **larger impact on general population** of Maldives. This will enhance India's goodwill among the people of Maldives; **(2)** India should **engage with political opposition** of Maldives. India should also convey that the projects being undertaken are for the **general good of the people** e.g., the US$ 136.6-million development of the airport at **Hanimadhoo** includes the development of a **2.46-km runway** that can accommodate large aircraft, and a terminal with an annual capacity for 1.3 million passengers. This will **improve tourist inflow**, which is the **mainstay of economy** of Maldives; **(3)** It should be ensured that India is not seen as **interfering in the internal politics of Maldives** including Presidential elections. Political interference by India will be exploited by opponents to India's detriment.

Maldives is **vital to India's interests** due to its **strategic location** in the Indian Ocean. India-Maldives Relationship has a strong foundation based on **India's historic assistance** to Maldives during multiple crises. However, the relationship has seen new challenges in recent times, especially with **China's rising influence in the Indian Ocean Region**. Presidential elections are set to be held in Maldives in September 2023. The elections are important for India as well, because the trajectory of India-Maldives relationship will depend on the outcome of the elections. India must give a **rigorous push to ties with Maldives** while being mindful of Maldives' sensitivities.

General Studies Paper III

1. Economic Survey 2022-23: Key Highlights

News: The Economic Survey 2022-23 was tabled in the Parliament.

What are the Key Highlights of the Economic Survey 2022-23?

GDP PROJECTIONS

- In real terms, the economy is expected to grow at 7% for FY2022-23.
- The **baseline GDP growth** for 2023-24 has been projected at **6.5%** in real terms. The projected growth will be ~6.0%-6.8%, depending on economic and political developments globally.
- India's growth outlook arises from: **(a)** Limited health and economic impacts from the recent surge in COVID-19 infections in China and continued **normalisation of supply chains; (b)** Inflationary impulses from the **reopening of China's economy** turning out to be neither significant nor persistent; **(c) Possibility of recession in developed countries** has made their Central Banks (like the US Federal Reserve) to slow down/stop the interest rate hikes, which will increase capital flow into India. This has **improved investment sentiment** in India.

Indian Economy A Snapshot
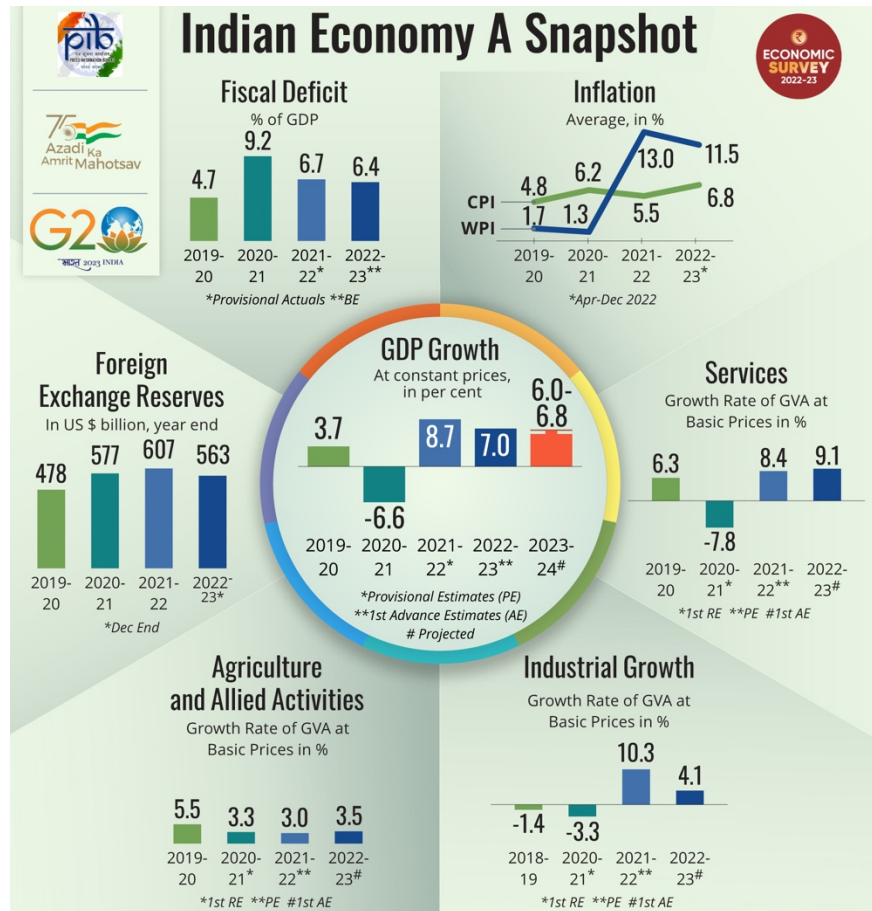
INFLATION

- India's retail inflation rate peaked at 7.8% in April 2022, above the Reserve Bank of India's (RBI) upper tolerance limit of 6%. Yet it was one of the lowest in the world.
- The inflation could be controlled through **RBI's measured actions of calibrated interest rate hikes** and controlling inflation expectations through **regular communication**.

FISCAL DEVELOPMENTS

- The Government's finances showed a resilient performance due to **recovery in economic activity**, and **buoyancy in revenues** from direct taxes and GST. The gross tax revenue registered a year-on-year growth of 15.5% from April to November 2022.
- **GST has stabilised as a vital revenue source** for the Governments. Gross GST collection has risen 24.8% on a year-on-year basis durig April-December 2022. (*Refer EPIC July 2022 for 5 Years of the GST*).

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- The Government's emphasis on Capital Expenditure has continued despite higher revenue expenditure. The Centre's capex rose from a long-term average of 1.7% of GDP (FY2008-09 to FY2019-20) to **2.5% of GDP in FY2021-22**.
- Despite capex push, the Government has been able to restrict **fiscal deficit** to the budgeted 6.4% of the GDP. *(Refer EPIC January 2023 for Fiscal Deficit in India: Trends and Concerns)*.

MONETARY MANAGEMENT

- **Monetary tightening** (raise in interest rates) by the RBI since April 2022 has led to a **moderation of surplus liquidity conditions**.
- The growth in **credit off take** (i.e., rise in loans from banks for investments etc.) is expected to sustain. Together with a rise in private capex, this will raise investments in the economy.
- The gross NPA ratio of scheduled commercial banks fell to a 7-year low of 5.0%.

SOCIAL INFRASTRUCTURE AND EMPLOYMENT

- Government spending on the social sector saw an increase from INR 9.1 lakh crore (2015-16) to INR 21.3 lakh crore (2022-23).
- The Union and State Governments' budgeted expenditure on the health sector touched 2.1% of GDP in 2022-23.
- The **JAM Trinity** (Jan-Dhan, Aadhaar and Mobile), combined with Direct Benefit Transfers (DBT), has **brought the marginalised sections of society into the formal financial system**, revolutionising the path of **transparent and accountable governance** by empowering the people. Aadhaar played a vital role in **developing the CoWIN platform** and transparent administration of over 2 billion vaccine doses. *(Refer EPIC November 2022 for Direct Benefits Transfer (DBT): Advantages and Challenges)*.
- **Out-of-pocket expenditure** as a percentage of total health expenditure declined from 64.2% in 2013-14 to 48.2% in 2018-19.
- Labour markets recovered beyond pre-Covid levels with unemployment **rates** falling from 5.8% in 2018-19 to 4.2% in 2020-21. *(Refer EPIC August 2022 for The Issue of Jobless Growth in India)*.

AGRICULTURE AND FOOD MANAGEMENT

- The performance of the agriculture sector has been buoyant, due to the measures taken by the government to **(a)** Augment crop and livestock productivity; **(b)** Ensure certainty of returns to farmers through **price support**; **(c)** Promote crop diversification; **(d)** Improve **market infrastructure** through the impetus provided for the setting up of farmer-producer organisations; **(e)** Promotion of investment in infrastructure through the Agriculture Infrastructure Fund.
- **Private investment** in agriculture rose to 9.3% in 2020-21. Institutional credit to the agricultural sector continued to grow to INR 18.6 lakh crore in 2021-22.
- The MSP for all mandated crops was fixed at 1.5 times of the all-India weighted average cost of production

Foodgrains Production
In million tonnes

Year	Production
2018-19	285.2
2019-20	297.5
2020-21	310.7
2021-22*	315.7

*4th Advance Estimates

from 2018. Food grain production in India saw sustained increase and stood at 315.7 million tonnes in 2021-22.
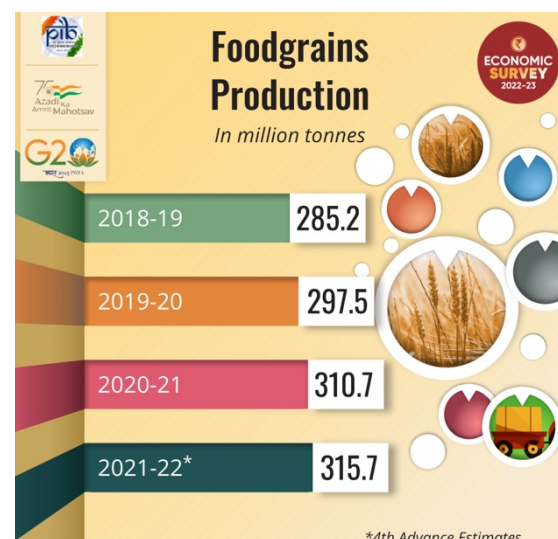
INDUSTRY

- Overall GVA of the industrial sector (for the first half of 2022-23) rose 3.7%. Robust growth in private final consumption expenditure, **export stimulus**, increase in investment demand triggered by **enhanced public capex** and **strengthened bank and corporate balance sheets** provided a demand stimulus to industrial growth.
- Credit to MSMEs has grown by an average of around 30% since January 2022.
- Electronics exports rose from US$ 4.4 billion in 2018-19 to US$ 11.6 billion in 2021-22. India became the **second-largest mobile phone manufacturer globally**, with the production of handsets rising to 29 crore units in 2020-21 from 6 crore units in 2014-15.
- The production-linked incentive (PLI) schemes were introduced across 14 categories, with an estimated capex of INR 4 lakh crore over the next five years, to plug India into global supply. Investment of INR 47,500 crores has been seen under the PLI schemes in 2021-22, which is 106% of the designated target for the year.

SERVICES

- The services sector is expected to grow at 9.1% in 2022-23. India was among the **top 10 services exporting countries** in 2021. India's share in world commercial services exports has reached 4% in 2021 (3% in 2015).
- Contact-intensive services are set to reclaim pre-pandemic-level growth rates in 2022-23. The tourism sector is showing **signs of revival**, with foreign tourist arrivals in India growing. Sustained growth in the real estate sector is taking housing sales to pre-pandemic levels, with a 50% rise between 2021 and 2022. e-Commerce market is projected to grow at 18% annually through 2025.

EXTERNAL SECTOR

- Merchandise exports were US$ 332.8 billion for April-December 2022. India has diversified its markets and increased its exports to Brazil, South Africa and Saudi Arabia.
- India has entered into a **Comprehensive Economic Partnership Agreement with the United Arab Emirates** and an Economic Cooperation and Trade Agreement with Australia in 2022.
- India continued to be the **largest recipient of remittances in the world**, netting US$ 100 billion in 2022. Remittances are the 2nd-largest major source of external financing after service exports.
- As of December 2022, forex reserves stood at US$ 563 billion covering 9.3 months of imports. India is the **6th-largest foreign exchange reserves holder** in the world (November 2022).

CLIMATE CHANGE AND THE ENVIRONMENT

- Global nature of the problem makes India one of the most vulnerable regions despite having contributed only about 4% in the **cumulative global emissions** (1850-2019) and maintaining its per capita emission at far less than the world average.
- India has integrated the development goals with ambitious climate action goals, in the form of rising **solar power capacity**, energy saving targeting notified in PAT cycle-VII, improved green cover facilitated by Green India Mission, among other targeted Government actions.
- In August 2022, India updated the NDCs in line with the PM's vision expressed in the 26th COP of the UNFCCC.
- The **National Hydrogen Mission** and **Green Hydrogen Policy** have been introduced to enable India to be energy independent by 2047. Its pivotal role is also reflected in **India's Long Term Low Emissions Development Strategy** (LT-LEDS). (*Refer EPIC January 2023 for National Green Hydrogen Mission, EPIC November 2022 for India's Long-Term Low Emission Development Strategy, and EPIC March 2022 for Green Hydrogen and Ammonia Policy*).

PROCEEDS FROM DISINVESTMENT

- In the last 9 years, approximately INR 4.07 lakh crore have been realised as disinvestment proceeds.
- As of January 2023, 48% or more than INR 31,000 crore of the budgeted target of INR 65,000 crore had been collected.

What are the major challenges faced by the Global Economy? – (1) As noted by the WHO, **COVID-19 pandemic** is not over yet and the world is vulnerable to disruption in the economies due to an unanticipated wave and surge in cases; **(2) Russian-Ukraine conflict** has caused an adverse impact on global economy with **disruption in supply chains**, mainly of food, fuel and fertilizers. Prolonged war will increase the uncertainties; **(3)** The Central Banks across economies led by the US Federal Reserve have responded with synchronised policy rate hikes to curb inflation. This has led to appreciation of US Dollar and the **widening of the Current Account Deficits** (CAD) in many economies. The **possibility of recession** has prompted the Banks to slow down the rate hike process, yet there are uncertainties of capital outflow should interest rates rise; **(4)** Another challenge has emerged with the prospects of **global stagflation**. Developed countries have been slowing cross-border trade affecting overall growth; **(5)** China has experienced a **considerable slowdown** due to its policies. Slowdown in Chinese economy will have global repercussions; **(6)** The impact of pandemic will pose a medium-term challenges due to **loss of education** and income-earning opportunities.

These challenges can have a direct and indirect impact on the Indian Economy.

2. Fiscal Imbalance Between Union and State Governments

News: The fiscal imbalance between Union and State Governments is rising.

What is the status of fiscal imbalance? – (1) One measure of vertical fiscal imbalance is the formula Vertical Fiscal Imbalance, **VFI = (1 - (ratio of State's own revenue to State's own expenditure))**; **(2)** If the ratio is exactly zero, it means that the State's own revenues equal State's expenditure. The State can meet all its expenditure from its own revenue and does not require any fiscal transfers from the Union Government; **(3)** Analysis of data over the periods of the last 3 Finance Commissions (2005-06 onward), shows that the VFI ratio has displayed an increasing trend. For the period 2015-16 to 2020-21, the ratio has been 0.530. It implies that **States' own revenue is only 47% of their expenditure**. *(Refer EPIC September 2022 for Fiscal Centralization in India)*.

What were the major changes in fiscal arrangements (between Union and States) in this period? – (1) The divisible taxes of the Union Government expanded from 2 to all the Union taxes. It enlarged the revenue base to be shared with the States; **(2) Fiscal responsibility legislation** was implemented to constrain the fiscal deficits of the States. States directly borrow from the market subject to limits imposed by the Union government; **(3)** The Union Planning Commission was dissolved. It led to the withdrawal of Plan grants; **(4)** The GST was introduced in 2017.

These changes have considerably **altered the revenue structure of States**. States have little revenue autonomy and are more dependent on the Union Government to meet their expenditures.

The issue is compounded by fall in transfer to States. An analysis by Ernst & Young has shown that effective share of States in Gross Central Taxes has been falling consistently. The shortfall between **effective**

States' share in central taxes: recommended and effective

Commission	Recommended share in divisible pool (%)	Effective share in gross central taxes (%)	Shortfall in effective share relative to recommended (% points)	Share of cesses and surcharges[a] in center's gross tax revenues (%)
FC 12	30.5	25.9	-4.6	
FC 13	32.0	27.9	-4.1	9.6
FC 14	42.0	34.9	-7.1	12.8
FC 15 (1)	41.0	28.9	-12.1	23.8
FC 15 (2)	41.0	30.0*	-11.0*	20.5*

Source: Union Budget Documents, Reports of 12th-15th FCs
*pertains to data for one year namely, FY22 (BE); [a]excludes GST compensation cess

share of States and the recommended share by the Finance Commission has exceeded 10% now.

What should be done to reduce the vertical fiscal imbalance? – Experts have suggested reassigning tax powers between the Union and States: **(1)** CGST and the excise duty on petroleum products should be assigned to the States. There is a need to bring all commodities, including petroleum products, under GST. The assignment of excise duty on petroleum products to the States will hasten the process of **integrating taxes on petroleum products into GST**. It will remove the cascading effects of the current excise duty on petroleum products; **(2)** The Union Government should continue to collect IGST only to **settle revenue on a destination basis**. This will ensure harmonisation of GST across States; **(3)** GST shall continue as a tax determined by the GST Council. However, the **veto power of the Union government should be removed**. This may require some Constitutional amendments; **(4) Commodity taxation** should be moved to **State List** (List II) of the Seventh Schedule, with a rider that **harmonisation of commodity taxation** should be maintained; **(5)** The tax base of the GST, (i.e., consumption), is not equally distributed among the States. It creates **horizontal fiscal imbalance** among the States. Therefore, the Union government should effect **equalisation transfers** to address this issue of horizontal fiscal inequality.

The reassignment of tax will increase the tax revenue of the States. This will also improve accountability of the States to their people on fiscal matters. VFI will come down. All the States' own expenditure can be financed by their own revenue resources. (*Refer EPIC July 2022 for The State of State Government Finances*).

3. Labour Force Participation Rate and Impact of Education

News: Estimates suggest that India will need to create ~20 million jobs every year over the next decade to fully absorb the backlog of un/underemployment. Several challenges limit the employment generation potential of the economy.

What are the Key Concerns of India's Labour Market? – **(1)** According to the economic experts, the employment challenge in India is attributable to two types of policy distortions: **(a)** Industrial regulation; **(b)** Education policy; **(2)** Faulty Industrial regulation has led to: **(a)** Slow growth of employment; **(b)** Low employment intensity of GDP growth; **(c)** Low labour force participation rate, especially among women.

What are the Education Policy-related causes of India's employment challenge? – (1) Lack of education: Only a small fraction of the Indian workforce has the educational foundation required for highly skilled, **high-productivity jobs** e.g., according to an estimate, 48% of the workforce had not graduated from high school (below 10th Standard), 28% had studied between 6th-9th standards and 20% had studied till 5th standard. Only 12% of the Indian workforce was a graduate or postgraduate whereas this ratio in the US is ~44%. The education levels of most Indian workers enable them to acquire **only low skills suitable for low-productivity jobs**; **(2) Lack of Skills**: ~5% of the workforce have any skill training and only 2% have any formal skill certificate as compared to over 70% in advanced European countries like the UK or Germany and 80% in East Asian countries like Japan or South Korea. During September-December 2022, the overall unemployment rate in India was 7.5% but the **unemployment rate for graduates was 17.2%**; **(3) Neglect of Primary Education**: India's long-standing neglect of primary and secondary education has limited the access to quality basic education; **(4) Skewed towards Higher Education**: The share of public expenditure on education in India, ~14%, is about the same as the Asian-country average. But its allocation has a sharp bias e.g., The per student expenditure on tertiary education is about the same as on primary education in Thailand and South Korea. In India, it is over nine times (i.e., per student expenditure on Tertiary education is 9 times that on primary education).Universal primary education (> 90% net primary enrolment) was achieved in India during the past decade but most countries in East and Southeast Asia had already achieved

this goal over 50 years ago; **(5) Learning Outcomes**: Successive ASER Surveys have shown that learning outcomes still remain abysmal; **(6)** In India, **labour force participation** (LFPR) **and unemployment rate both increase with education** e.g., the LFPR and unemployment of 5th standard pass workers is 30% and 1% respectively. The corresponding values for graduates are 62.5% and 17.2%. In contrast, in the US, the unemployment rate drops as the education levels rise.

What needs to be done in education to improve India's labour market? – Education has remained a neglected issue. Unlike welfare and other populist schemes with immediate poll pay-offs, education programmes take time to show results. Only recently, political parties have begun to consider education as a priority electoral issue. This will force State Governments to focus more on **skill-oriented education**. Such required changes are embodied in the **National Education Policy (NEP) 2020**. There is a need to focus on its effective implementation. On the economic front, investments should be directed to labour intensive sectors and MSMEs.

4. Disinvestment in India: Trends and Challenges

News: Government has set a target of INR 51,000 crore for Disinvestment in the Budget. This is the lowest target in the last 7 years. The proceeds from Disinvestment have been lower than target for most years.

What is Disinvestment? – (1) Disinvestment, or divestment, refers to sale of assets or a subsidiary by the Government e.g., the sale of Public Sector Enterprise/Unit (PSE/PSU); **(2)** The sale of Enterprise can be full (i.e., 100% of Government ownership is sold) or partial. The disinvestment can be classified as **minority or majority disinvestment** or **complete privatisation**; **(3)** In minority disinvestment, the Government retains a majority in the company, typically greater than 51%, ensuring management control. In **majority divestment**, the government hands over control to the acquiring entity but **retains some stake**. In complete privatisation, 100% control of the company is passed on to the buyer.

Methods of Disinvestment

- **Initial Public Offering (IPO)**: It is offer of shares by an **unlisted PSE** out of its shareholding to the public for subscription **for the first time**.
- **Further Public Offering (FPO)**: It is offer of shares by a **listed PSE** out of its shareholding to the public for subscription.
- **Offer for Sale (OFS) by Promoters through Stock Exchange**: This method allows auction of shares on the platform provided by the Stock Exchange.
- **Strategic Sale**: Sale of substantial portion of the Government share holding of a PSE, up to 50%, or such higher percentage as the competent authority may determine, along with **transfer of management control**.
- **Institutional Placement Program (IPP)**: Only **Qualified Institutional Buyers** can participate in the offering. Qualified Institutional Buyers are those institutional investors who are perceived to **possess expertise** to evaluate and invest in the capital markets.
- **CPSE Exchange Traded Fund (ETF)**: Disinvestment through ETF route allows simultaneous sale of Government's stake in various PSEs across diverse sectors through single offering. It provides a mechanism for the Government to **monetize its shareholding** in those CPSEs which form part of the **ETF basket**.

What are the reasons for undertaking Disinvestment? – (1) Government Revenue: The Government can earn revenue which can be used for meeting expenditure obligations like capital investments, welfare measures, and financing budget deficit; **(2) Improve Competition**: Entry of private entities through privatization **boosts market competitiveness** and results in an improvement in market efficiency. It can help PSUs in modernising their technology; **(3) Reduce Government's Role**: According to economy and policy experts, the Government should be involved only in **strategic sectors**. For others, the Government should let the private sector efficiencies take control, subject to **effective regulation**. The role of the Government should be to focus on the welfare sector; **(4) Efficiency**: Interference by the Government in the PSUs impact their independence and functioning e.g., in PSEs, new investments can be **driven by political factors** rather than pure **economic logic**. PSEs may employ more workers than actually needed. Reduction in Government control enhances **overall economic efficiency**; **(5) Valuation**: Dilution of Govt.

shareholding, and giving the shares for retail trading opens up the market. It **increases the liquidity** of the shares and helps get **better/realistic valuation**.

What is the latest policy on Disinvestment? – (1) The Disinvestment policy will cover existing Central Public Sector Enterprises (CPSEs), Public Sector Banks, and Public Sector Insurance Companies; **(2)** The Government has classified the public sector under 2 categories: **Strategic** and **Non-strategic Sector**; **(3)** In Non-strategic sectors, the Government **will exit from all businesses**; **(4)** The Government will keep only a '**bare minimum**' presence in four broad strategic sectors, i.e. **(a)** Atomic energy, Space and Defence; **(b)** Transport and Telecommunications; **(c)** Power, Petroleum, Coal, and other minerals; **(d)** Banking, Insurance and financial services; **(5)** The government will incentivize States for disinvestment of their Public Sector companies; **(6)** The new policy is significant as it goes beyond the past case-by-case approach and lays down a **rationale for deciding the future ownership pattern** of 439 CPSEs, including their subsidiaries e.g., 151 public sector firms in non-strategic sectors will either be closed or sold. The policy brings **public sector banks** and **insurance entities** into the ambit of disinvestment for the first time; **(7)** The Government has launched the **National Monetisation Pipeline** (NMP) to generate new revenue streams by unlocking the value of previously unutilised and underutilised public assets. Under this, the Government will monetize the surplus land with the Government Ministries and Departments and PSEs. The Cabinet has approved the creation of **National Land Monetisation Corporation** (*Refer EPIC March 2022 for National Land Monetization Corporation (NLMC)*).

Timeline of Disinvestment in India
Progress of Disinvestment since 1991

Industrial Policy Statement stated that Government will divest its stakes in PSEs without detailing specifics. — 1991

INR 4.8 Lakh Crore realized since 2014. ~**70% of earnings through disinvestment since 1991.** — 2014-Now

Disinvestment Commission established to develop **long-term disinvestment programme.** — 1996

INR 11,591 Crore (2004-09) and INR 1.2 Lakh Crore (2009-14). Limited due to pressure of coalition politics. — 2004-14

INR 17,557 Crore realized (INR 90,000 Cr in 2022 prices), limited by coalition politics pressures. — 1991-98

Department of Disinvestment established. INR 27,599 Crore realized (INR 93,300 Cr. in 2022) — 1999-04

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What are the challenges and concerns related to Disinvestment? – (1) Sale of profit-making and dividend-paying PSUs would result in the **loss of regular income** to the Government. Disinvestment has become a resource raising exercise by the government. There is **no emphasize on reforming the PSUs**; **(2)** The valuation of shares has been affected by the Government's decision not to reduce government holdings below 51%. With the continuing majority ownership of the Government, the public enterprises would continue to operate with the earlier culture of inefficiency; **(3)** Government is not willing to give up control even after strategic disinvestment. In the 2019-20 Budget Speech the Finance Minister stated that the Govt. will change the policy of 'directly' holding 51% or above in a CPSU to one whereby **Government's 'direct' plus 'indirect' holding is maintained at 51%**. It means government will still exercise its control over PSUs. This will **reduce the interests of buyers**; **(4)** The process of disinvestment suffers from **bureaucratic control**. Bureaucrats are reluctant to take timely decisions in the **fear of prosecution** on issues like undervaluation of shares during disinvestment; **(5) Strategic Disinvestment of Oil PSUs** is seen by some experts as a **threat to National Security**. Oil is a strategic natural resource and possible ownership in the foreign hand is not consistent with strategic goals; **(6) Loss-making units don't attract investment**. It depends upon the perception of investors about the PSU being offered especially in strategic sales, where the amount of investment is very high; **(7)** Complete Privatization may result in public monopolies replaced by **private monopolies**, which may lead to **market failures**, higher prices and consumer exploitation; **(8)**

Using funds from disinvestment to bridge the fiscal deficit is an unhealthy and short-term practice. This is **not sustainable in the long term**. Government should focus on increasing its revenue from more reliable resources and cut down **Fiscal Deficit**.

Disinvestment: Budget vs Actual

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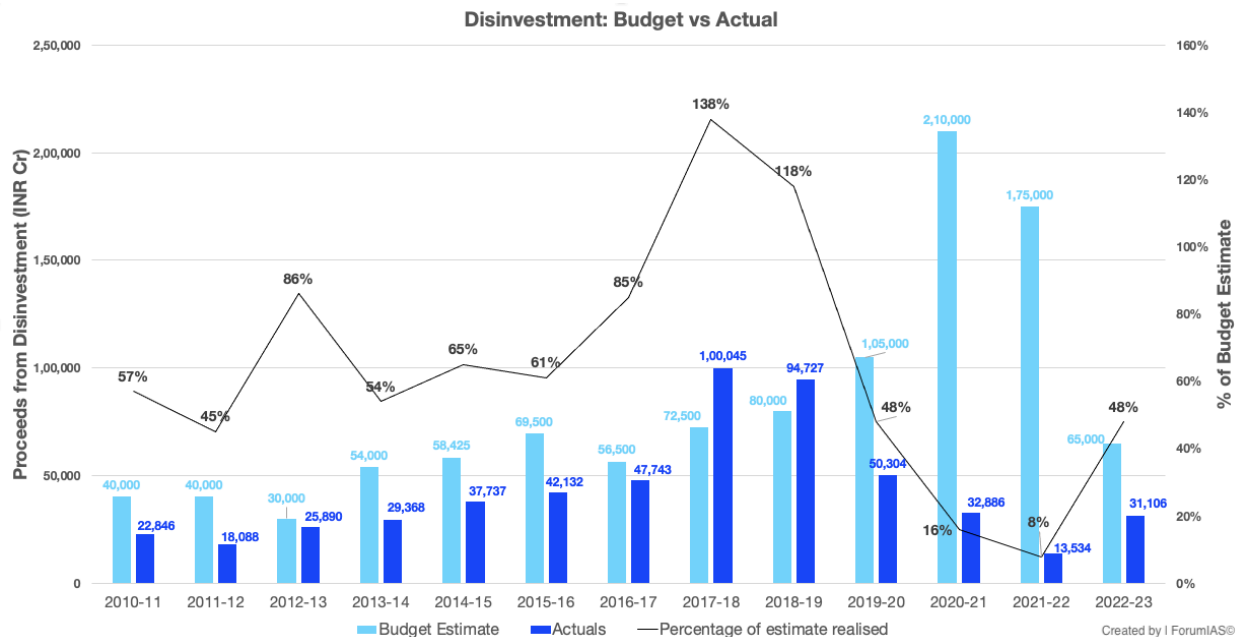
What should be the approach going ahead? – (1) Government should increase the **operational autonomy** of PSEs. It can be supplemented by **strong governance measures** including listing on stock exchanges.

Such steps will increase transparency in their performance; **(2)** Government must also try to provide the bidders with a **fair valuation** of the Government entities. It will **boost the investor confidence** in disinvestment process; **(3)** Government should reform boards and reorganize the structures of PSEs. This will attract more buyers and get better valuations.

NITI Aayog's Recommendations on Disinvestment

- NITI Aayog's disinvestment proposals should go to directly to the **Cabinet Committee on Economic Affairs** (CCEA) instead of the respective Ministry. This would shorten the process.
- Government should consider **appointment of Advisors and Asset valuers** to speed up the process of disinvestment.
- An **independent professional agency** should be set-up to speed-up the Asset Monetisation Programme.

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Disinvestment has several benefits. It can help enhance competition in various sectors and improve efficiencies. It also helps raise revenue for the Government, which can be spent on welfare measures. However, the Government must ensure its presence in certain strategic sectors like banking, energy etc. It will ensure the social obligations and strategic interests intricately linked with these sectors are secured.

5. Bilateral Investment Treaties: India's Approach and Concerns

News: The EU is negotiating Investment Protection Agreement (IPA) along with the India-EU FTA. Experts have expressed concerns regarding several provisions of India's Bilateral Investment Treaties (BITs).

What are Bilateral Investment Treaty Agreements (BITs/BITAs)? – (1) BITs are **reciprocal agreements** between two countries to **promote and protect foreign private investments** in each other's territories; **(2)** The Agreements establish **minimum guarantees** regarding the **treatment of foreign investments**, and protect them from **arbitrary decisions** of national Governments; **(3)** BITs have provisions like: **(a) National**

treatment (treating foreign investors at par with domestic companies); **(b) Fair and equitable treatment** (in accordance with international law); **(c) Protection from expropriation** (limiting each country's ability to take over foreign investments in its territory) etc. among others.

What are the benefits of BITs? – (1) BITs provide security against arbitrary actions of Governments. Protection enhances confidence of investors. Thus, BITs have a potential to attract foreign investment; **(2)** BITs generally provide a **mechanism for settling disputes**. The most preferred mode of settling disputes is **arbitration**, where parties agree to have their dispute decided by a neutral person (the arbitrator) instead of going to Court; **(3)** BITs encourage the **adoption of market-oriented domestic policies** that treat private investment in an open, transparent, and non-discriminatory manner; **(4)** BITs support the development of **international law standards** consistent with the objectives of trade and investment promotion.

What are the issues with India's Approach to BITs? – (1) The review of the then existing Model BIT texts and the formulation of the Model BIT of 2016 was a knee-jerk reaction to the White Industries case, instead of an initiative to promote foreign investment; **(2) Narrow Definition of Investment**: The Model BIT (2016) has a very narrow definition of 'investment' and creates **high thresholds** for what can be considered as breach. The definition of investment is full of **vague terms** like '**certain duration**' and '*investment…operated in good faith*'. Such ambiguities in the text and the lowering of protection standards may act as a **deterrent to foreign investment**; **(3)** The Model BIT has **omitted the doctrines of 'fair and equitable treatment' standard and Most-Favored Nation** (MFN) etc. It sends a wrong signal to the investors creating fears that their investments might not be safe in India; **(4)** The Model BIT insists that investor **must exhaust domestic remedies** (for at least 5 years) before commencing arbitration under the BIT. This will entangle the investors in prolonged disputes given pendency and slow dispensation of justice in India; **(5)** Indian companies investing abroad will also have **similar limitations** on protections and be subjected to the local judicial bottlenecks; **(6)** Model BIT requires the investors to **voluntarily adopt principles of corporate social responsibility** addressing issues like labour, environment, human rights, community relations and anti-corruption. However, the provision falls under the '**best endeavour clause**', which means that they are **not enforceable**. Absence of mandatory obligations means that **Government can't press counter-claims** on foreign investor on grounds that the investor has violated local law, human rights obligations, environmental obligations etc.

India's BITs

- Government released the **first Model BIT text in 1993**. Under this model, India signed its first Bilateral Investment Treaty (BIT) with the United Kingdom in 1994.
- In 2003, Government released **Model Bilateral Investment Promotion Agreement** (BIPA).
- As of 2015, India had signed BITs with 83 countries (of which 74 were in force).
- The BITs were **invoked by several MNCs** in context of their disputes regarding sovereign actions of the Government of India.
  - In 2011, an International Chamber of Commerce (ICC) Tribunal ordered the Government of India to pay US$ 4.10 million to **White Industries under the 1999 Indo-Australia BIT**.
  - The Government also received notices under various BITs concerning **retrospective tax amendments** and the **cancellation of 2G licenses**.
- Post these developments, the Government initiated a review of its existing BITs.
- In 2016, Government released a **new Model BIT** replacing the earlier 1993 and 2003 versions.
- Since then, India has **signed only 4 BITs** with Belarus, Kyrgyzstan, Taiwan, and Brazil. The Government is negotiating with 37 countries/blocks, and has **terminated its older BITs with 77 countries** (i.e., older BITs with only 6 countries are in force).

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What corrective steps should be taken? - The **Parliamentary Standing Committee on External Affairs** had reviewed India's Model BIT 2016 and BIT Agreements with other nations and submitted its report ('India and Bilateral Investment Treaties') in September 2021. It has made several noteworthy recommendations: **(1)** It recommended **timely settlement** of investment disputes through pre-arbitration consultation or negotiations; **(2)** There is scope of improvement in the Model BIT. New Model of BIT should: **(a)** Be suitably amended in light of new experience gained in disputes arising out of BITs; **(b)** Be reviewed continuously to ensure that it is balanced and comprehensive; **(c)** Incorporate **best practices** and provisions from BITs

adopted by advanced countries after studying in detail the implementation and outcome of such treaties; **(3)** New BITs should be **drafted without any ambiguity**, so as to avoid: **(a)** Overbroad interpretation by arbitrators and tribunals; **(b)** Investment disputes or claims against India; **(c)** The abuse of certain provisions by investors; **(4)** The Report calls for **developing local expertise**. It recommended developing panels of domestic lawyers/firms with **requisite expertise in investment arbitration** to represent India. Relevant training of Government officials should be undertaken; **(5) New Delhi International Arbitration Centre** should be promoted as a world-class arbitration centre; **(6)** The **UNCITRAL Working Group III on ISDS** (Investor-State Dispute Settlement) reforms has suggested that **including binding investor obligations** in the BITs would provide host Governments with a legal basis to raise counter-claims. This would **remove the uncertainties** and arbitral discretion; **(7)** The UN Working Group on Human Rights, Transnational Corporations and other businesses, stresses the need to include **binding and enforceable investor obligations concerning human rights and environment**; **(8)** Government should focus on reforming domestic judicial system. Amendments to the **Arbitration and Conciliation Act, 1996**, is a right step, but there are a number of administrative and substantive aspects that need a complete overhaul.

Robust international trade and stable investments will be a vital factor to make India a developed country by 2047. The Government has pursued the negotiations of FTAs with a renewed vigour. This must be complemented by review and suitable corrections to the approach to Bilateral Investment Treaties (BITs). BITs remain a critical lever in **attracting long term and consistent foreign investment**. This will help in achieving multi-fold increase in trade and investments, paving way for rapid growth of the Indian economy.

6. Generative Artificial Intelligence (AI): Benefits and Concerns

News: ChatGPT has set the technology sector abuzz with its capabilities. However, technology sceptics have raised concerns about the potential misuse of Generative AI and its disruptive impacts.

What is Generative AI? – (1) Generative AI uses **Artificial Intelligence and Machine Learning algorithms** to enable machines to create **new content**; **(2)** Systems use previously created content, such as texts, audios, videos, images, and codes; **(3)** The term 'Generative' refers to the ability of the models to learn how to **generate new data rather than simply recognising it** e.g., generative model may learn how to **generate images** that resemble faces given a set of parameters (such as the eyes, hair, or skin colour etc.); **(4)** The content (text, image etc.) generated by AI is so

Source: **WEF**. *The above image has been created by Generative Artificial Intelligence developed by Midjourney Labs. The text prompt to generate the image was* 'A *technical illustration of a woman sitting behind a desktop computer on a long table, isometric view, 3D rendering, realistic...*'

'authentic', that it is difficult to distinguish whether the content has been generated by human or computer.

What are the applications of Generative AI? – The applications of Generative AI are wide and still evolving: **(1) Motion Picture Industry**: It can utilized to alter the background/landscape according to the need, rather than wait for required conditions to exist e.g., a movie scene requiring cloudy weather can be shot under any weather conditions, and the background can be altered later on using AI. By using **face synthesis** and **voice cloning**, artist's original voice can be matched with a lip-sync. This will also help in archiving artefacts after restoration for future references; **(2) Search Engine Services**: Text to Image translation may

be utilized to provide search results. It can be used to produce **realistic images from textual descriptions of objects like** birds and flowers; **(3) Security Services**: It can be used for **face verification** or **identification systems**. Such systems can be

Source: WEF. Images created by Midjourney through Generative Artificial Intelligence using Text Prompt.

deployed at airports, international border check-points etc.; **(4) Healthcare**: Semantic-Image-to-Photo Translation can convert inputs that are semantic images or sketches to photo-realistic images e.g., if X-ray or any CT scan images can be converted to real images, **diagnosis can be much more accurate**; **(5) Advertising**: Generative AI can create new advertisements based on existing ones, making it easier for companies to reach new audiences; **(6) Location Services**: This involves converting satellite images to map views. This can be a huge step towards venturing into unexplored geographic locations.

The possible applications of Generative AI are **still being explored** and can **expand considerably** as the technology evolves further. It can expand to fields like education, content creation, banking among others.

What are the benefits of Generative AI? – (1) Increased Efficiency: It can be used to automate tasks and reduce manual labour. This can **help businesses save time and money**, as well as increase efficiency; **(2) Improved Quality**: Generative AI can help improve the quality of content generated e.g., to create more 'visually appealing' images and videos or create more accurate text; **(3) Faster Results**: It can help in getting faster results compared to manual labour. It can create images and videos in a fraction of the time it would take a human to do the same task; **(4) Improved Decision Making**: Generative AI can be used to generate data that can be used to make better decisions. Applications in the medical field can help in better diagnosis; **(5) Improved Customer Experience**: Based on analysis of user data and preferences, more accurate and relevant content can be generated for customers and users. This can help create a better customer experience and increase customer satisfaction.

What are the concerns associated with Generative AI? – (1) Accuracy: The technology is not fool proof. The Machine Learning Algorithms depend on the **quality of the input data**. Erroneous or inaccurate data can generate inaccurate results; **(2) Increase Biases**: Generative AI systems can **perpetuate and amplify existing biases**. If the models are trained on biased, non-inclusive data, they will generate biased outputs, such as offensive or discriminatory language, demeaning and degrading imagery, and prejudicial content. A rights-group in the US pointed out the example of an AI-based generative imagery programme showing images of only white men for the prompt 'CEO'; **(3) Malicious Purposes**: Generative AI systems can create content for malicious purposes, such as **deepfakes**, disinformation, and propaganda. It can also generate offensive or inappropriate content which can be used to **manipulate people**, **influence public opinion** and

destabilise domestic stability (*Refer EPIC January 2023 for Deep Synthesis Technology and Deepfakes*); **(4) Low Quality Output**: It may also produce low-quality and less accurate information, specifically in the context of complex engineering and medical diagnosis; **(5) Concern over Data Privacy**: Data privacy issues can arise from using generative AI in different industries, such as healthcare, since it involves collecting private information about individuals; **(6) Limitations in Creativity**: AI uses past data as a template for future work. It means that the output produced by Generative AI is usually based on something that has already happened rather than anything **genuinely creative**. In short, AI systems **lack creativity**, **originality and human ingenuity**. Generative AI Systems cannot generate new ideas by themselves at present; **(7) Ownership and Copyright Issues**: It can be challenging to determine who should be held accountable if any harm results from use of Generative AI system. There are concerns related to **use of copyrighted content to train AI systems** and the **copyright ownership** of content so generated; **(8) Risk of Un-employment**: There is a risk that generative AI could contribute to unemployment in certain fields. This could happen if generative AI automates tasks or processes previously performed by humans; **(9) Environmental Concerns**: AI systems require a lot of **computing power** and consume lot of energy.

What should be done going ahead? – (1) Researchers can use techniques such as de-biasing and **fair representation learning**, which can help to remove biases present in the training data; **(2)** Researchers can also use techniques such as counterfactual data generation, which can help to generate more diverse and representative training; **(3)** There is need to add rigour and responsibility to developing AI technology, **develop and enforce ethical guidelines**, conduct regular audits for fairness, identify and address biases, and protect privacy and security; **(4)** There is need to add **adequate policy**, **regulation**, **awareness**, **and education guardrails** to develop Generative AI services ethically and responsibly. China has proposed a policy for the same. Some measures include requirement for the users of Generative AI to ensure that **any doctored content using the technology is explicitly labelled** and can be traced back to its source. The regulation also mandates people using the technology to edit someone's image or voice, **to notify and take the consent of the person**; **(5)** Intellectual property law must find a way to protect artists from copies that erode the value of their original work, but at the same time encourage them to continue to be inspired by others. The **US Copyright Office** has already declared that **AI generated art is not entitled to intellectual property protection** as it lacks the 'nexus between the human mind and creative expression', which is necessary to invoke copyright protection.

The Generative AI is a revolutionary technological development. However, as is the case with every new technology, it has several associated concerns. A pragmatic approach is necessary that can minimize the negative impacts of technology.

7. Village Defence Committees (VDCs) in J&K

News: Rise in terror-related strikes targeting minority community in J&K has led the Government to revive the Village Defence Committees (VDCs).

What are the VDCs? – (1) The VDCs were first formed in the erstwhile Doda district (now Kishtwar, Doda and Ramban districts) in mid-1990s; **(2)** They were established as **force multiplier** against terrorist attacks. VDCs were set up to instil a sense of self protection; **(3)** The Jammu and Kashmir administration had provided residents of remote hilly villages with **weapons** and gave them **arms training** to defend themselves; **(4)** The district's Superintendent of Police was mandated to **exercise command and control**; **(5)** VDCs played a crucial role in **containing terrorism in the Jammu division**. VDC presence was concentrated **in remote areas**. The difficult terrain and scarcity of security forces made it difficult to undertake security operations. VDCs were trained to **hold the front** against terrorists **till the arrival of**

security forces. VDCs were able to thwart many terrorist attacks as local village members were well versed with local terrain; **(6)** With the rise in cases of targeted killings in remote villages, VDCs have now been recreated as **Village Defence Guards** (VDGs).

What were issues associated with VDCs? – (1) Violation of Rights: In several cases, the VDCs proved to be counter-productive. There were instances of cadres of VDCs abusing their authority. They faced allegations of **violation of human rights** including murder, rape and extortions. According to the official figures (2016), 27,924 civilians were serving in 4,248 VDCs across the State. There were 221 FIRs against them, including 23 cases murders, 7 cases of rape, rioting (15), NDPS Act (3) and 169 other cases; **(2) Constitutionality**: Though not the same, VDCs are quite similar to *Salwa Judum* mobilized in Chhattisgarh for counter-insurgency operations against Maoists. The Supreme Court had held them unconstitutional in *Nandini Sundar vs. State Of Chhattisgarh (2011)*. The SC had said that the policy **violated the rights under Articles 14 and 21** of those being employed in *Salwa Judum* and used in counter-insurgency measures against Maoists/Naxalites, as well as of citizens living in those areas.

What improvements are needed in VDCs/VDGs? – (1) Command and Control: State policy on the VDGs must aim to mitigate the negatives. The issue should be viewed through the prism of human resources management of the cadres. There is a need of a **hands-down command and control mechanism**. The present system of control under the Superintendent of Police may not be the ideal arrangement. An alternate mechanism that can keep the cadres motivated and focused should be developed; **(2) Strengthen Panchayats**: The revival of the VDGs should be used as an **opportunity to empower the local bodies**. Panchayats are most suited to **understand local dynamics** in a conflict zone. Panchayats can be entrusted with the task of **assisting the local police** in an institutionalised manner. This will create advantages such as **quality checks** on the character of VDG cadres during the selection stage, monitoring their activities and consolidated control through oversight and deterrence; **(3) Role of VDGs**: The VDGs should not be involved in **proactive intelligence and tactical operations**. They must instead remain confined to **'self-defence and deterrence roles'**.

Polity

1. Procedural Reasons for Judicial Delays

News: The pendency of cases at all levels of judiciary have crossed 4 crore cases.

About Pendency of Cases

Over 4 crore cases are pending in the subordinate judiciary, apart from 56 lakh in High Courts and about 70,000 in the Supreme Court. The Government has proposed engaging lawyers as Judges and bringing back retired judges as 'ad hoc' judges as out-of-the-box remedies to tackle this issue. (*Refer EPIC September 2021 for The Issue of Pendency of Cases in Judiciary*).

Cases Pendency: Delay Reasons
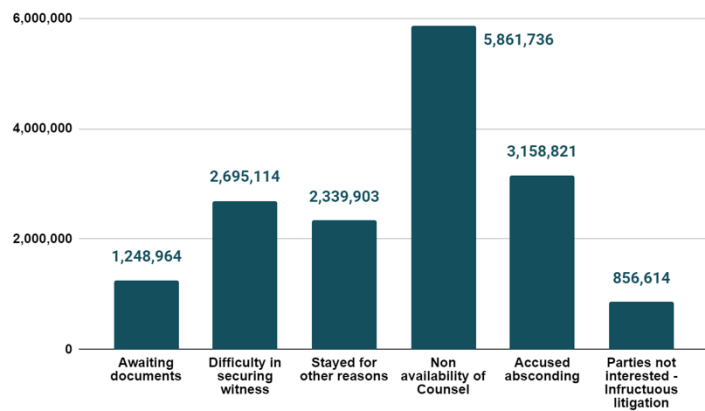
Procedural Factors in Judicial Delays (3 A's)

(a) Adjournments: Mechanical adjournments at all tiers of the judiciary is the largest contributor to pendency. The **procedure for adjournment is not codified**. Adjournments are asked and given in a casual manner. The Civil Procedure Code was amended in 2002 to bring reforms. It mandated that each adjournment decision should **specify the reason** for the adjournment. It limited the number of adjournments in a case to 3. However, these rules are not being followed.

(b) Admissions: Admissions of new cases are also responsible for long pendency. Admission rate in the SC is ~11%. HCs are too **permissive**, admitting almost all cases brought before them. There are **no rules for admission**.

(c) Appeals: The Government is the biggest culprit here. The Government generally opts for appeal against every single order. (*Refer EPIC May 2022 for Pendency of Cases of Constitutional Importance*).

Resolving Judicial Delays

The Constitutional Courts must **practice prudence on 3A's**. They should also ensure that lower courts do not grant frequent adjournments. Every adjournment should be treated as a **minor judicial decision** requiring a written reason. As a result, the rate of adjournments will reduce. (*Refer EPIC January 2023 for Reducing Pendency of Cases in Judiciary and EPIC March 2022 for Reducing Pendency of Cases by Procedural Reforms*).

2. Supreme Court's Judgment on Judicial Review of Recommendations of Collegium

News: The Supreme Court has dismissed petitions seeking to restrain a Judge recommended by the Collegium to take oath as an additional Judge of the Madras High Court.

Reasons Behind Dismissal of the Petitions

The Supreme Court has explained that 'suitability' of a candidate cleared by the Collegium for appointment as a judge in a Constitutional Court **cannot be a subject of judicial review.**

Therefore, it **cannot issue a writ of *certiorari*** quashing the recommendation, or *mandamus* calling upon the Collegium of the Supreme Court to reconsider its decision.

This would result in evaluating and substituting the decision of the Collegium, with individual or personal opinion on the suitability and merits of the person. Hence the appointment was outside the ambit of judicial review.

Difference between Suitability and Eligibility

The Bench distinguished between **'suitability'** and **'eligibility'** of a candidate recommended for Judge in a High Court. Eligibility is based on **'objective factors'** given in **Article 217(2) of the Constitution** like the status of citizenship and 10 years' experience as a Judicial officer or a lawyer in a High Court.

Suitability of a candidate was the domain of the Collegium as it involved a procedure designed to test the **fitness of a person**, including her character, integrity, competence, knowledge.

3. Chargesheets in Public Domain: SC Judgment

News: The Supreme Court has held that the State is not obliged to provide free access to chargesheets by uploading them on websites. The Court declared chargesheets to be 'private documents'.

About Chargesheet

According to Section 173 of the Code of Criminal Procedure (CrPC), a charge sheet is a report generated by police officers after investigating a case. It contains all the relevant records from the commencement of the investigation till the completion of the investigation and preparation of the final report. It contains the names of the people brought in custody, the charges they are brought in for and the identity of the accusers.

Once the charge sheet has been submitted to a court of law, **prosecution proceedings begin** against the accused.

Time Limit for filing Chargesheet

According to CrPC, the prescribed time limit for filing charge sheet is 60 days for offences triable by the Magistrate and 90 days for offences triable by Sessions Court. If the charge sheet is not filed within the prescribed time mentioned above, the accused has a **right to default bail**.

SC Judgement Regarding Putting Chargesheets in Public Domain

A PIL had been filed in the SC which sought all charge sheets or final reports should be uploaded on State websites as it will bring transparency in the criminal justice system. The PIL had relied on an earlier decision of the Supreme Court (*Youth Bar Association Case*, 2016) that directed police to upload the First Information Reports (FIRs) within 24 hours of their registration.

The SC has ruled that the chargesheet (Final Investigation Report) filed in criminal cases is **not a 'public document'** (Section 74 of Evidence Act defines Public Documents) and cannot be put in public domain for free access. The SC added that making chargesheets public will **violate the rights of the victim**, **accused** and even the investigating agencies.

About the First Information Report (FIR)

It is the information recorded by an on-duty officer given by an aggrieved person or any other person either in writing or made orally about the commission of a **Cognizable Offence**. Investigation is started based on the FIR.

4. Contesting Elections from Two Constituencies

News: The Supreme Court has refused to set aside a provision in the Representation of People Act, 1951 which allows candidates to contest elections from two constituencies simultaneously.

About the Case

A petition was filed in the Supreme Court to declare **Section 33(7)** of the Representation of People Act, 1951 as invalid. According to Section 33(7), a candidate can contest from maximum two constituencies. The Supreme Court has said that the issue is a policy matter concerning political democracy. The SC said it is for the Parliament to take a call. There is no arbitrariness in the provision, hence it can't be struck down.

Government's Stand

The Union Government had argued that **law cannot curtail the right of a candidate** to contest elections and the right of electorate regarding their choice of candidates. The Government had further stated that one-candidate-one-constituency restriction would require a legislative amendment. Section 33(7) was added to the Act through an **amendment in 1996**. Earlier, there was no restriction on the number of seats a candidate could contest.

Concerns Associated with the Provision

When a person contests election from two constituencies and wins from both, they have to vacate one constituency. This necessitates bye-election in the vacated constituency. It puts additional burden on the exchequer to conduct bye-election.

Suggestions of the Election Commission

The Commission has suggested that the law should be amended to provide that a person cannot contest from more than one constituency at a time. The candidate should deposit an amount of INR 5 lakh for contesting in two constituencies in an Assembly Election or INR 10 lakh in a General Election. The amount can be used to **cover the expenses for a by-election** if the candidate wins in both constituencies.

5. Supreme Court's Guidelines on Living Will

News: The Supreme Court has modified its 2018 Judgment on passive Euthanasia and Living Wills.

About Supreme Court Judgment on Living Will

In 2018, the Supreme Court recognised and gave sanction for passive euthanasia and Living Will or Advance Medical Directives. The SC had ruled that the Right to Life under Article 21 includes the **Right to Live with Dignity**. The Right to Live with Dignity includes the **smoothening of the process of dying** in case of a **terminally ill patient** or a person in a **persistent vegetative state** with no hope of recovery.

The SC had laid down guidelines for '**living will**' made by terminally ill patients who beforehand know about their chances of slipping into a permanent vegetative state.

These guidelines were challenged on the ground that they were not implementable. The Supreme Court then agreed to modify its guidelines.

THE CHANGES BROUGHT

	NOW	EARLIER
Living will	An attestation by a notary or a Gazetted officer to be sufficient for a living will	It was necessary that a judicial magistrate attest or countersign a living will
Access to the living will	Living will a part of national health record which can be accessed by Indian hospitals	Living will was kept in the custody of the district court concerned
Primary board to examine patient's condition	Three doctors, including treating physician and two other doctors with five years of experience in the specialty, will comprise the primary board of doctors	Primary board of doctors needs at least four experts from general medicine, cardiology, neurology, nephrology, psychiatry or oncology with overall standing of at least 20 years
Time taken to decide	Primary/secondary board to decide within 48 hours on withdrawal of further treatment	The 2018 judgment did not specify any outer limit on withdrawal of treatment
Secondary board	Hospital must immediately constitute a secondary board of medical experts	The district collector had to constitute the second board of medical experts

Modified Guidelines by the Supreme Court on Living Will/Advance Medical Directive

The SC has modified the previous judgement to do away with the **necessity of a judicial magistrate to attest or countersign a living will**.

The SC said that the document will be a part of the **National Health Digital Records**.

At the time of its implementation (i.e., when the executor/person is terminally ill with no hope of cure), the treating doctor at the hospital would **ascertain the genuineness of the living will**, compare it with the copy in the digital health records, consult with the relatives about the option that withdrawal of care would be the 'best choice'. The condition of the patient will be verified by two distinct medical boards (primary and secondary) to determine whether or not to withdraw medical care or life support.

The findings of the Boards and consent of the relatives shall be conveyed to the Judicial Magistrate before giving effect to the Living Will. In case, the boards refuse to give effect to the living will, the person named in it or the treating doctor or the hospital could approach the High Court concerned.

(*Refer EPIC September 2022 for The Debate on Euthanasia*).

Judgments Related to Euthanasia

- *P. Rathinam v. Union of India (1994)*: The SC ruled that Section 309 (Attempt to Suicide) of the IPC is **violative of Article 21**, and should be repealed.
- *Gian Kaur v. The State of Punjab (1996)*: Article 21 was deemed to exclude the 'Right to Die.' The constitutionality of Sections 306 (Abetment to Suicide) and 309 of IPC was confirmed.
- *Aruna Ramchandra Shanbaug v. Union of India (2011)*: The SC allowed Passive Euthanasia and laid down guidelines for the same.
- *Common Cause v. Union of India (2018)*: The SC recognized the 'Right to die with dignity' as part of Right to Life and Personal Liberty. An adult of competent mental capacity has a right to refuse medical treatment and withdrawal from life-saving devices. Life-support systems for the terminally ill or those in incurable comas can be removed. The SC also recognised the importance of writing a **living will** (Advanced Medical Directive).
- *Chandrakant Narayanrao Tandale v. the State of Maharashtra (2020)*: Active euthanasia is illegal. The petition of active euthanasia was not allowed.

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6. Nominated Members Can't Vote in Delhi Mayor Election: Supreme Court

News: The Supreme Court has ruled that the Aldermen (nominated members) of the Delhi Municipal Corporation cannot vote in the election of Delhi's Mayor.

About Aldermen

The term Alderman refers to a member of a city council or municipal body; however, their specific roles and responsibilities differ according to the context.

Under the **Delhi Municipal Corporation Act**, the Administrator can nominate 10 individuals over the age of 25 to the Corporation. These aldermen are expected to have **special knowledge or experience in the municipal administration** and assist the House in taking decisions of public importance.

About Voting Rights for Nominated Members

According to the **Delhi Municipal Corporation Act, 1957,** nominated members **shall not have the right to vote** in the meetings of the Corporation.

Article 243R of the Constitution states that Legislature of a State may, by law, provide for the representation of persons having special knowledge or experience in Municipal administration. However, such members do not have right to vote in the meetings of the Municipality.

Until 2015, Aldermen had no voting rights in the House or Ward Committees of the MCD. However, a single-Judge Bench of the **Delhi High Court** ruled that the nominated members being constituent members of Ward Committees, **can participate and vote** in any meeting of the **respective Wards Committee**.

About SC Judgment

The SC has held that the **Constitution has imposed restrictions on the nominated members** and they **don't have the right to vote**. The same restriction finds statutory recognition in the Delhi Municipal Corporation Act, 1957.

7. Section 69(A) of the Information Technology Act, 2000

News: The Ministry of Electronics and Information Technology (MeitY) has issued orders to block 138 online betting platforms and 94 money lending apps under Section 69(A) of the Information Technology Act, 2000. The Ministry of Home Affairs had recommended closure citing links of Apps to China.

About Section 69 of the IT Act

Section 69 of the IT Act allows the Government to **issue content-blocking orders to online intermediaries** such as Internet Service Providers (ISPs), telecom service providers, web hosting services, search engines, online marketplaces etc.

However, the Section requires the information or content being blocked to be **deemed a threat to India's national security, sovereignty or public order**.

MeitY has the power to block under the Information Technology (Procedure and Safeguards for Blocking for Access of Information by Public) Rules, 2009.

Judicial View Regarding Section 69A

In Shreya Singhal vs Union of India (2015), the Supreme Court had struck down **Section 66A** of the IT Act, 2000 which entailed punishment for sending offensive messages through communication services etc.

The plea had also **challenged Section 69A** of the Act but the SC had held this to be 'constitutionally valid'.

Policy

1. Fall in Workdays and Funds Allocated to MGNREGS

News: The average days of employment provided per household under the MGNREGS are at a 5-year low. Funds allocated to MGNREGS in the Union Budget 2023-24 are lowest since 2017-18.

About Workdays Under MGNREGS

The average days of employment provided per household under the MGNREGS are at a 5-year low for this financial year. The **average days of employment provided per household** was 42 days in 2022-23 while it was 50 days in 2021-22, 52 days in 2020-21, 48 days in 2019-20 and 51 days in 2018-19.

Decline in Employment under MGNREGS

Analysts argue that systemic problems in MGNREGS are disincentivizing participation: **(a) Fall in Fund Allocation**: This has led to suppression of work demand and delays in wage payments; **(b) Technical complexities**: The introduction of avoidable technical complexities like an app for attendance at worksites has caused more hardships for workers who are being dissuaded; **(c) Implementation**: States are not able to implement the scheme. As of January 2023, at least 9 States and UTs have utilised less than 70% of projected person days. With low utilisation, financial outlay for the underperforming States is expected to further shrink in the upcoming financial year. (*Refer EPIC November 2022 for Decentralize MGNREGS for Better Implementation*).

Fall in Budget Allocation

The Union Government has slashed the budget for the MGNREGS to INR 60,000 crore in 2023-24. This is the lowest since 2017-18. The spending had jumped to INR 111,170 crore in 2020-21 amidst the COVID-19 crisis.

According to the Government, the **economy has fully emerged from the effects of the pandemic**. It means there **no need for special safety nets** that helped protect the most vulnerable households from significant loss of income during the pandemic.
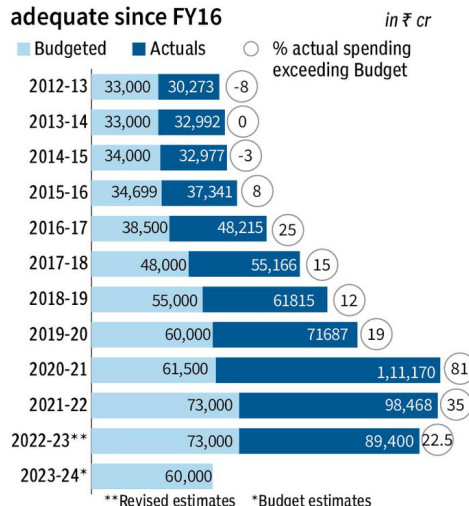
The Economic Survey 2022-23 said that there has been a Year-on-Year (YoY) decline in monthly demand for MGNREGS. The reason behind this is that the rural economy is normalizing due to strong agricultural growth. Moreover, the assets created under MGNREGA have had a positive impact on agricultural productivity, production-related expenditure and income per household along with a negative association with migration and a fall in indebtedness, especially from non-institutional sources.

NREGA allocations haven't been adequate since FY16 *in ₹ cr*

	Budgeted	Actuals	% actual spending exceeding Budget
2012-13	33,000	30,273	-8
2013-14	33,000	32,992	0
2014-15	34,000	32,977	-3
2015-16	34,699	37,341	8
2016-17	38,500	48,215	25
2017-18	48,000	55,166	15
2018-19	55,000	61815	12
2019-20	60,000	71687	19
2020-21	61,500	1,11,170	81
2021-22	73,000	98,468	35
2022-23**	73,000	89,400	22.5
2023-24*	60,000		

**Revised estimates *Budget estimates

Government's Response to Criticism

Government officials have argued that expenditure on MGNREGA is

need-based, and can always be **increased if required**, e.g. the actual allocation in FY2020-21 was 81% higher than the Budget.

There have been major increases in allocations this year in the PM *Awas Yojana* (*Grameen*) and *Jal Jeevan* Mission. The amount spent on these schemes will have some **effect on demand for MGNREGA work** as they would be for the same type of people with the similar types of jobs.

2. Out-of-Pocket Expenditure Still High: Economic Survey 2022-23

News: According to the Economic Survey, almost half of all health spending in India is still paid by patient themselves directly at the point of treatment.

Key Highlights on Health Spending in India

Out-of-pocket expenditure: Government's share in health expenditure has risen from 28.6% in 2013-14 to 40.6% in 2018-19. The share of out-of-pocket expenditure has fallen from 64.2% to 48.2% in the same period. But still almost half of all health spending in India is still paid by patients themselves directly at the point of treatment. In states such as Uttar Pradesh, the estimates were as high as 71.3%.

Government Health expenditure: The budgeted expenditure of Union and State Governments on the health sector has reached 2.1% of GDP in the budget estimates for 2022-23 and 2.2% in the revised estimates for 2021-22 (1.6% in 2020-21).

It has been recommended by health experts that the Government's health expenditure should be raised to 2.5% of GDP by 2025.

Health spending

The chart shows government health expenditure (GHE) and out-of-pocket expenditure (OOPE) as a share of total health expenditure (THE). OOPE still remains high

OOPE as a % of THE: 64.2, 62.6, 60.6, 58.7, 48.8, 48.2

GHE as a % of THE: 28.6, 29, 30.6, 32.4, 40.8, 40.6

2013-14, 2015-16, 2018-19
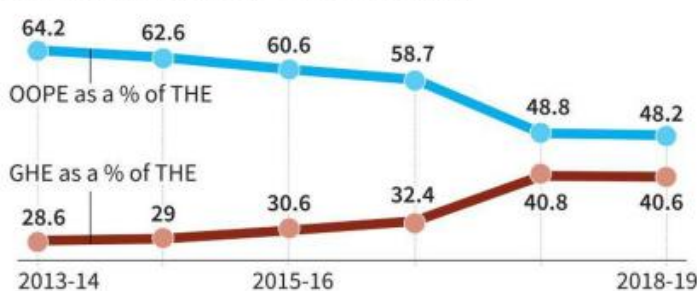
PT BOX

Out-of-Pocket Expenditure

It is the money paid directly by households, at the point of receiving health care. This occurs when services are neither provided free of cost through a government health facility nor is the individual covered under any public or private insurance or social protection scheme.

Ayushman Bharat Jan Arogya Yojana: Under this scheme, approximately 21.9 crore beneficiaries have been verified including 3 crore beneficiaries verified using State IT systems. This is less than 50% of the originally targeted approximately 50 crore beneficiaries under the scheme. *(Refer EPIC September 2022 for Fall in Health Spending by Government: National Health Accounts (NHA) Estimates (2018-19))*.

3. Fall in Budget Allocation to Education: Economic Survey

News: According to the Economic Survey, the share of education in budgetary allocations have fallen over the past 7 years.

Key Highlights from the Economic Survey on Education

Share of Education in Budge: The budgetary allocation for education as a percentage of total expenditure has dropped over the past seven years, from 10.4% to 9.5%. The share of education within the social services category has reduced from 42.8% to 35.5% between FY2015-16 and 2022-23.

Part of this could be attributed to the faster growth in spending on health and other measures due to the COVID-19 pandemic.

Decline in dropout rates: There has been a steady decline in school dropout rates at all levels from 14% in 2020-21 to 12.6% in 2021-22. Government schemes such as *Samagra Shiksha*, Right to Education Act 2009, improvement in school infrastructure and facilities, residential hostel buildings, availability of teachers, regular training of teachers, free textbooks, uniforms for children and PM POSHAN Scheme played the major role in increasing enrolments and **retaining students**.

Lower spending
The chart shows the budgetary allocation for education as a share of total expenditure. Allocation for the sector declined from 10.4% in FY16 to 9.5% in FY23

Higher Education: The number of medical colleges in the country has increased from 387 in 2014 to 648 in 2022 and the number of MBBS seats has increased from 51,348 to 96,077. The number of IITs rose from 16 to 23 between 2014 and 2022 and IIMs from 13 to 20.
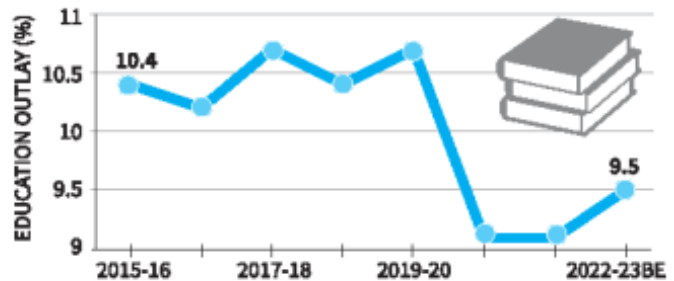
4. Measures for Cooperative Sector in Union Budget 2023-24

News: The Union Budget 2023-24 announced several initiatives for the Cooperative Sector.

About the Measures Announced in the Union Budget for Cooperatives

Decentralised Storage Capacity: The Budget has announced setting up of massive decentralised storage capacity so that farmers can store their produce and receive remunerative prices by selling at an appropriate time. It will be the **world's largest grain storage facility.**

Concessions in Income Tax Rate: The Budget has announced a concessional income tax rate of 15% for cooperatives to promote the growth of new cooperative manufacturing societies.

Increase in the limit of cash deposits and loans: The Budget has increased the limit of cash deposits and loans to INR 2 lakhs in cash provided by Primary Agricultural Cooperative Societies (PACs).

Higher Limit for TDS: Cooperative societies has been given a higher limit of INR 3 crore for tax deducted at source (TDS) on cash withdrawals.

Relief to sugar cooperatives: The claims for payment made to sugar farmers before the assessment year 2016-17 will now be **considered an expenditure**. This is expected to provide approximately INR 10,000 crore in relief to the sugar cooperatives.

Model bye-laws: The Budget also announced that model bye-laws for PACS are being formulated. It will enable them to become multipurpose cooperatives to meet the country's diverse needs and remain financially profitable.

Initiatives for Cooperatives

- ⊘ **National Database of Cooperatives**: The Government is establishing a national database of cooperatives to reduce the sectoral and geographical variations.
- ⊘ **National Cooperative Policy**: A committee has been constituted by the Ministry of Cooperation to formulate a National Cooperative Policy. It will include stakeholders' recommendations and become a link to connect the masses with the country's financial system.
- ⊘ **National Cooperative University**: The Government is also working towards establishing a National Cooperative University to provide trained manpower to cooperatives.
- ⊘ **Services by PACS**: An MoU has been signed between the Ministry of Cooperation and Ministry of Electronics and Information Technology, enabling PACS to provide the services offered by the Common Service Centre.
- ⊘ **Computerisation**: The computerization of 63,000 agricultural cooperatives has been started.

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5. Aspirational Blocks Programme

News: The Union Government has launched the Aspirational Blocks Programme (ABP) to improve the performance of areas lagging behind on various development parameters.

About the Aspirational Blocks Programme?
(a) The programme is built on the success of the Government's flagship **Aspirational Districts Programme**;
(b) The ABP focuses on **improving governance**. The objective is to enhance the **quality of life** of citizens in the **underdeveloped blocks**.
(c) This will be done by converging existing schemes, defining outcomes, and constant monitoring.
(d) An **inter-ministerial committee** in consultation with States has identified **500 blocks** from across 28 States and 4 UTs.
(e) ABP will focus on monitoring **15 key socio-economic indicators** categorised under **5 major themes** of the Aspirational Districts Programme.
(f) States have the **flexibility** to include additional state-specific socio-economic indicators to address local challenges. The indicators will be **tracked on a real-time basis** and **periodic rankings** will be released.

About the Choice of Blocks for Development
(a) Development blocks ensure that a larger than **proportionate share of development** reaches the **vulnerable sections** by building **social and economic infrastructure**.
(b) It ensures that a 'one-size-fits-all' approach is not applied to address development deficit. The block administration can adopt **customised approaches** based on the local conditions and emergent needs.
(c) This method brings the **decision-making process** closer to the **grassroots**.

Achievements Sought by the Aspirational Block Programme
Some blocks under ADP continue to under-perform. The reasons include difficult terrain, lack of resources, resources, historical injustice, social marginalisation and community vulnerability.
The ABP aims to address these inequalities by **improving governance** and **last mile service delivery** at the block level. Several line departments of the block administration will **converge and cooperate** to bridge critical administrative gaps.
This will lead to holistic economic development and aid the achievement of critical targets under SDGs.
ABP will leverage the **3-Cs of convergence, collaboration, and competition** to achieve its vision.

6. Budget Allocation for Mechanised Cleaning of Septic Tanks

News: The Finance Minister has announced that the Union government was looking to enable 100% mechanical desludging of septic tanks and sewers in all cities and towns.

About NAMASTE

The Government has allocated ~INR 100 crore in the Budget for the **National Action Plan for Mechanised Sanitation Ecosystem** (NAMASTE) initiative. It is a joint project of the **Ministry of Social Justice and Empowerment** and the **Ministry of Housing and Urban Affairs**. Its aim is to eradicate unsafe sewer and septic tank cleaning practices. Under the scheme, **capital subsidies** of up to INR 5 lakh on sanitation machinery costing up to INR 15 lakh will be provided so that workers will be able to own sanitation machines themselves.

Deaths due to Manual Scavenging

According to the National Commission for Safai Karamcharis, 1,054 people have died till December 31, 2022 due to hazardous cleaning of sewer and septic tanks. (*Refer EPIC February 2022 for National Commission for Safai Karamcharis*). The highest number of such deaths have been reported from Tamil Nadu (231) followed by Gujarat (153).

Steps Taken Against Manual Scavenging

Manual scavenging has been prohibited under the **'Prohibition of Employment as Manual Scavengers and Their Rehabilitation Act 2013'**.

In 2014, the Supreme Court ordered that **compensation of INR 10 lakh** each must be paid by the State Government to families of those who have died while cleaning sewer or septic tanks from the year 1993 onwards.

Significance of the Announcement

Despite regulations prohibiting manual scavenging, the practice nevertheless persists, with contractors frequently outsourcing work to day labourers.

State and Union Governments have tried a number of different things to stop the practice e.g., in 2018, the Delhi government and the Dalit Indian Chamber of Commerce and Industry began developing a proposal for a project to introduce smaller machines to clean sewers on an ownership model with guaranteed work for the relatives of those who died while cleaning sewer lines in the city. Nearly 200 of these machines are currently in use throughout the city. Mechanised cleaning can now be implemented at a pan-India level.

7. Eliminating Sickle Cell Anaemia

News: During the Budget Speech, the Union Finance Minister has announced that Government is working on the mission to eliminate Sickle Cell Anaemia.

Prevalence of Sickle Cell Anaemia in Tribal Population

According to the Ministry of Tribal Affairs, about 1 in 86 births among STs have sickle cell anaemia.

There are approximately 200 districts in the country where the disease is prevalent, mostly in Maharashtra, Madhya Pradesh, Chhattisgarh, Gujarat, Rajasthan, Jharkhand and Odisha. In 2020, the Ministry of Tribal Affairs had launched the **Sickle Cell Disease Support Corner** to bridge the gap between patients and health care services in tribal areas.
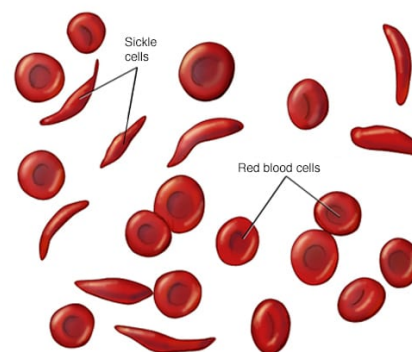
Government's Effort to Eliminate Sickle Cell Anaemia

The Government is planning to launch a mission to eliminate sickle cell disease by 2047. The mission will entail: **(a)** Awareness creation; **(b) Universal screening** of 7 crore tribal people in the age group of 0 to 40 years in tribal areas; **(c) Counselling** through effective measures of Union Ministries and State Government. The screening programme will be done in approximately 200 districts. The screening will be done through point tests. Both men and women will be tested and if both are found positive, they shall be counselled including the fact that they should not indulge in matrimony with each other as their children could also be seen carrying the same disease. The colour-coded card will help identify this.

The funds for the mission will be disbursed through the National Health Mission, and States will receive 60% of the funds from the Union Government and 40% from State contributions.

Sickle Cell Anaemia (SCA)

- Sickle Cell Anaemia is an **inherited blood disorder**. It a condition in which there aren't enough **healthy Red Blood Cells** (RBCs) to carry adequate oxygen throughout the body.
- Normally, RBCs are flexible and round, moving easily through the blood vessels. In SCA, the **RBCs become rigid and sticky** and are **shaped like sickles** or crescent moons.
- Such cells don't survive long in the blood; 10 to 20 days, compared to the usual 120 days. Patients may be severely anaemic and prone to infections.
- At present, the only remedy for SCA is a dangerous and expensive **bone marrow transplant**.
- Scientists are researching on treating the disease through a **gene editing technique** and clinical trials have shown reduced signs of disease.
- In the new trials, immature blood cells i.e. stem cells are removed from the bone marrow. The stem cells are **genetically modified**, and then infused back into the patient's bloodstream. The goal is for the modified cells to take up residence in the bone marrow and form healthy RBCs.

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8. Guidelines for Social Media Influencers

News: The Department of Consumer Affairs has released a guide 'Endorsements Know-hows!" for celebrities, influencers, and virtual influencers on social media platforms.

Size of Influencer Market

The size of the social-media influencer market in India in 2022 was ~INR 1,275 crore and by 2025, it is likely to be INR 2,800 crore. It is estimated that there are about 100,000 social-media influencers of substance. Individuals or groups with access to an audience and have the **power to affect their purchasing decisions** or opinions about a product, service, brand or experience. It is the responsibility of the endorsers or other advertisers is to honestly disclose the information that consumers must know before making decisions.

Aim of the Guidelines

The guidelines aim to ensure that influencers do not mislead their audiences when endorsing products or services and their activities are in compliance with the Consumer Protection Act and associated rules or guidelines.

Key Provisions of the Guidelines

Clear display of Disclosures: Disclosures must be prominently and clearly displayed in the endorsement, making them extremely hard to miss. All benefits, incentives, monetary or other compensation, trips or hotel stays, coverage and awards, free products, etc. should be disclosed. Terms such as 'advertisement', 'sponsored', or 'paid promotion' should be used. They should not endorse any product or service and service in which due diligence has not been done by them or they have not personally used or experienced.

Penalty: The Department of Consumer Affairs has published Guidelines for prevention of Misleading Advertisements and Endorsements in June 2022. The Central Consumer Protection Authority (CCPA) can impose a **penalty of up to INR 10 lakhs** on manufacturers, advertisers and endorsers and for **repeated offences**, a penalty of up to **INR 50 lakhs** can be imposed. The CCPA can also **prohibit the endorser** of a misleading advertisement from making any endorsement for up to 1 year. For subsequent contravention, prohibition can extend up to 3 years.

Economy

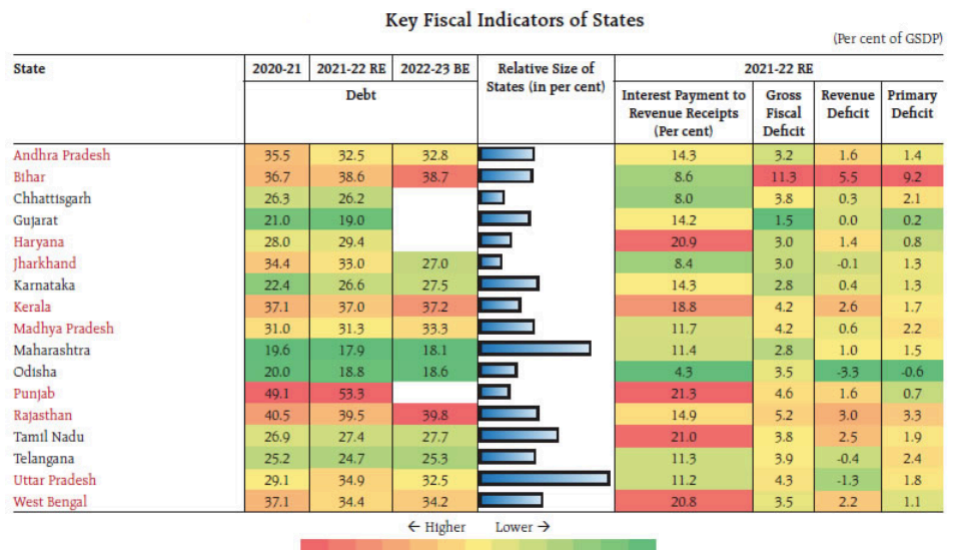## 1. RBI's Report on State Government Budgets

News: RBI has released its report on State Government Budgets for 2022-23.

Key Highlights from the RBI's Report

Debt-to-GDP: The Debt-to-GDP ratio has fallen from 31.1% in 2020-21 to 29.5% in 2022-23. This is very high. The **FRBM Review Committee (under N K Singh)** has recommended a ratio of 20% for States. A high Debt-to-GDP ratio means States to have pay more interest to service their debt, reducing the budget available for capital expenditure and investments. (*Refer EPIC July 2022 for The State of State Government Finances*).

Contingent Liabilities: State governments have seen a significant expansion in their contingent liabilities. Contingent liabilities here refer to the obligations of a State Government to repay the principal and interest payments in case a **State-owned entity defaults on a loan**. The guarantees issued by State Governments have risen from INR 3.12 lakh crore or 2% of GDP in 2017 to INR 7.4 lakh crore or 3.7% of GDP.

Old Pension Scheme: Some states such as Rajasthan and Chhattisgarh have chosen to shift to the old scheme. This will have **adverse implications for State finances**. In 2020-21, States had allocated INR 3.86 lakh crore towards pension. Shifting back to the old pension scheme will end up increasing pension liabilities, leaving lesser room for more productive spending. (*Refer EPIC December 2022 for The Debate Regarding Pension Schemes*).

Key Fiscal Indicators of States

(Per cent of GSDP)

State	2020-21	2021-22 RE	2022-23 BE	Relative Size of States (in per cent)	2021-22 RE			
	Debt				Interest Payment to Revenue Receipts (Per cent)	Gross Fiscal Deficit	Revenue Deficit	Primary Deficit
Andhra Pradesh	35.5	32.5	32.8		14.3	3.2	1.6	1.4
Bihar	36.7	38.6	38.7		8.6	11.3	5.5	9.2
Chhattisgarh	26.3	26.2			8.0	3.8	0.3	2.1
Gujarat	21.0	19.0			14.2	1.5	0.0	0.2
Haryana	28.0	29.4			20.9	3.0	1.4	0.8
Jharkhand	34.4	33.0	27.0		8.4	3.0	-0.1	1.3
Karnataka	22.4	26.6	27.5		14.3	2.8	0.4	1.3
Kerala	37.1	37.0	37.2		18.8	4.2	2.6	1.7
Madhya Pradesh	31.0	31.3	33.3		11.7	4.2	0.6	2.2
Maharashtra	19.6	17.9	18.1		11.4	2.8	1.0	1.5
Odisha	20.0	18.8	18.6		4.3	3.5	-3.3	-0.6
Punjab	49.1	53.3			21.3	4.6	1.6	0.7
Rajasthan	40.5	39.5	39.8		14.9	5.2	3.0	3.3
Tamil Nadu	26.9	27.4	27.7		21.0	3.8	2.5	1.9
Telangana	25.2	24.7	25.3		11.3	3.9	-0.4	2.4
Uttar Pradesh	29.1	34.9	32.5		11.2	4.3	-1.3	1.8
West Bengal	37.1	34.4	34.2		20.8	3.5	2.2	1.1

← Higher   Lower →

2. Short Selling

News: US-based Hindenburg Research has accused Adani Group of stock market manipulation. Hindenburg Research is an investment research firm that takes part in aggressive short selling.

As per SEBI norms, Short Selling is defined as **selling a stock which the seller does not own at the time of trade**. Short Selling (also called 'Shorting of Stock') is a popular trading technique. It can create large profits but can also lead to lot of loss. The traditional investing approach is '**Buy Low, Sell High**' i.e., buy a stock at a time when its price is low, hold it and sell it once its price rises. It is based on expectation of rise in price of

Short Selling

1. Short Seller borrows shares of ABC Ltd.
2. Short Seller sells the shares of ABC Ltd. at INR 100
3. Value of Shares falls to INR 90
4. Short Seller buys the shares of ABC Ltd. at INR 90
5. Short Seller returns the shares of ABC Ltd. and earns INR 10

Broker — Short Seller — Market

stock. In short selling technique, when there is **expectation that the price of stock will fall in future**, hence the approach is reversed

The 'Short Seller' first borrows the stock from a broker (say INR 100). The Short Seller then sells the stock at INR 100 and earns INR 100. The price falls to INR 90 in future. The seller buys the stock at INR 90 and returns the shares to the broker. The Short Seller thus earns INR 10.

The activity of short selling has been **debatable**. Experts contend that it can **destabilise securities market** (like stocks). Yet, it is legal in most stock markets. It is **legal in India** but with strict disclosure norms. According to SEBI norms, the institutional investors have to **disclose upfront** at the time of placement of order **whether the transaction is a short sale**. However, retail investors would be permitted to make a similar disclosure by the end of the trading hours on the transaction day.

3. Observations in the Economic Survey Regarding Start-ups

News: The Economic Survey 2022-23 has noted the challenges faced by Indian Start-ups. The number of start-ups has increased from 452 in 2016 to 84,012 in 2022.

Key Highlights from the Economic Survey on Indian Start-ups

(a) India ranks among the largest start-up ecosystems in the world. ~48% of young companies in India from tier II and III cities. The Department for Promotion of Industry and Internal Trade has recognised that start-ups have created more than **900,000 direct jobs**.

(b) The Government has strengthened its intellectual property rights regime by modernizing the IP office, reducing legal compliances, and **facilitating IP filing for start-ups**, women entrepreneurs, small industries and others. This has resulted in a **46% in the domestic filing of patents between 2016 and 2021**.

(c) According to the **Global Innovation Index 2022 Report**, India has entered the top 40 innovating countries for the first time in 2022, by **improving its rank from 81 in 2015 to 40 last year**.

Reverse Flipping

Flipping: Many start-ups have been headquartered overseas, especially in destinations with favourable legal environments and taxation policies, technically known as 'flipping'. It refers to the process of transferring the entire ownership of an Indian company to an overseas entity, including the transfer of all Intellectual Property and data owned by the Indian company. Typically, flipping happens at the early stage of the start-up. However, several Indian start-ups are now exploring **'reverse flipping'** or shifting their domicile back to India.

Challenges Faced by Start-ups

The Survey pointed out several other challenges start-ups face such as funding hurdles, struggle with generating and enhancing revenue, lack of access to supportive infrastructure, and a complex regulatory tax environment.

Recommendations

(a) Simplifying multiple tax layers; **(b)** Resolving uncertainty due to tax litigation, especially of employee stock ownership plans; **(c)** Exploring the incubation and funding landscape for start-ups in emerging fields like social innovation and impact investment; **(d)** Facilitating mentorship programmes through partnerships with established private entities; **(e)** Simplifying the process for the grant of an 'inter-ministerial board' certification for start-ups.

4. Importance of Shipbuilding Industry

News: The Economic Survey 2022-23 has noted that Shipbuilding Industry has one of the highest employment multipliers, capable of generating mass employment.

Importance of the Shipbuilding Industry

Highest Employment Multiplier: Among manufacturing activities, shipbuilding has one of the highest employment multipliers of 6.48. It is capable of generating mass employment in remote, coastal and rural areas. For instance, the recently commissioned aircraft carrier **INS Vikrant** alone engaged approximately 500 MSMEs, 12,000 employees from ancillary industries, and 2,000 shipyard employees.

Strategic Importance: Shipbuilding industry is a strategically important due to its role in energy security, national defence and development of the heavy engineering industry.

PT BOX

Employment Multiplier

Employment multiplier measures how the creation or destruction of output or employment in a particular industry translates into wider employment changes throughout the economy. Each industry has *backward (like raw materials) and forward (like transportation and distribution) linkages*. Therefore, creation of direct jobs in the industry creates additional indirect jobs in the related sectors. Employment multiplier measures the ratio of total jobs (direct + indirect) created for every one direct job created in the industry.

Contribution to Indian Economy: A study undertaken by the Navy for the construction of seven P17A ships reveals that ~75% of the total project cost of warships is invested back into the Indian economy. This investment is ploughed back into the economy through indigenous sourcing of raw materials, development of equipment and systems installed onboard ships and other manpower services.

An indigenous shipping and shipbuilding industry can also **reduce freight bills** and forex outgo, thus **reducing the Current Account Deficit**.

Collaborative Production System: Shipbuilding has links to other ancillary industries including steel, engineering equipment, port infrastructure, trade and shipping services which have the potential to create a collaborative production ecosystem.

5. **Angel Tax**

> **News**: Start-ups registered with the Department of Promotion of Industry and Internal Trade (DPIIT) have been exempted from the 'Angel Tax'.

About Exemption from Angel Tax

Indian start-ups raising capital from foreign investors such as SoftBank, Sequoia Capital will also have to pay angel tax. This means that **non-resident investors** will also come under the purview of angel tax. Till now these provisions were **applicable only to local resident investors**, but the ambit has been expanded as part of the Government's **anti-tax avoidance** move.

Levying of Angel Tax on foreign investments in Indian start-ups could **squeeze funding** into the start-ups. The start-up sector is facing a liquidity crunch and the move may prompt **more start-ups to shift overseas**.

Start-ups registered with the DPIIT (Department of Promotion of Industry and Internal Trade) have been **exempted from the 'Angel tax'**.

About Angel Tax

Angel tax is a term used to refer to the **income tax payable on capital raised by unlisted companies** via an issue of shares where the share price is seen in **excess of the fair market value** of the shares sold. The excess realization is **treated as income** and taxed accordingly.

The tax was introduced in the Union Budget 2012 to arrest the **laundering of funds**. It has come to be called angel tax since it largely impacts **angel investments** in start-ups. An angel investor is usually a high-net-worth individual who funds start-ups at the early stages, often with their own money.

6. Champion Services Sectors

News: The Union Government is taking several steps to promote the Champions Services Sectors.

About Champion Services Sectors
Champion Services Sectors refers to the **12 identified sectors** where the Government wants to give focused attention for **promoting their development and realizing their potential**. These sectors are **(a)** Information Technology (IT) & IT-enabled Services; **(b)** Tourism & Hospitality Services; **(c)** Medical Value Travel; **(d)** Transport & Logistics; **(e)** Accounting and Finance; **(f)** Audio Visual; **(g)** Legal; **(h)** Communication; **(i)** Construction and Related Engineering; **(j)** Environmental **(k)** Financial Services; **(l)** Education.

Steps Taken to Promote Champion Services Sector
(a) The Government has formulated an **'Action Plan for Champion Sectors in Services'** and allocated INR 5,000 Crores to support sectoral initiatives for these sectors. The Government has followed multi-pronged approach: **(i)** Negotiating **meaningful market access** through multilateral, regional and bilateral trade agreements; **(ii) Trade promotion** through participation in and organization of international fairs; **(iii)** Addressing **domestic sectoral challenges** and difficulties through periodic consultations with stakeholders.
(b) The **Bureau of Indian Standards** (BIS) has set up a dedicated **Services Sector Division Council** (SSDC) to formulate **Indian Standards in various Services Sectors** especially Champion Services Sectors.
(c) Districts as Export Hubs Initiative: Under the initiative, products with export potential have been identified from districts of the country.

7. Primary Agricultural Credit Societies

News: The Union Budget has announced INR 2,516 crore for computerization of Primary Agricultural Credit Societies over the next 3 years.
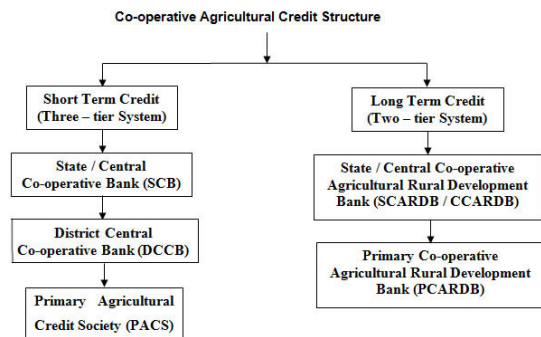
About the Primary Agricultural Credit Societies (PACS)
PACS are **village-level cooperative credit societies** that serve as the last link in a three-tier cooperative credit structure. The structure is headed by the **State Cooperative Banks** (SCB) at the State level. Credit from the SCBs is transferred to the **District Cooperative Central Banks** (DCCBs at the district level). The DCCBs work with PACS, which deal directly with farmers.
Individual farmers are members of the PACS and office-bearers are elected from within them. **A village can have multiple PACS.** A **report published by the Reserve Bank of India** in 2022 put the number of PACS at 1.02 lakh.

Lending Mechanism of PACS
PACS are involved in **short-term lending** (crop loan). At the start of the cropping cycle, farmers avail credit to finance their requirement of seeds, fertilizers etc. Banks extend this credit at 7% interest, of which 3% is subsidized by the Union Government and 2% by the State Government. Effectively, farmers avail the crop loans at 2% interest only.

Co-operative Agricultural Credit Structure

Short Term Credit (Three – tier System)	Long Term Credit (Two – tier System)
State / Central Co-operative Bank (SCB)	State / Central Co-operative Agricultural Rural Development Bank (SCARDB / CCARDB)
District Central Co-operative Bank (DCCB)	Primary Co-operative Agricultural Rural Development Bank (PCARDB)
Primary Agricultural Credit Society (PACS)	

PACS offer the last-mile connectivity. For farmers, timely access to capital is necessary at the start of their agricultural activities. PACS have the capacity to **extend credit with minimal paperwork within a short time**.

Computerization of PACS

PACS are still **functioning manually** resulting in **inefficiency and trust deficit**. In some States, stand-alone and partial computerization of PACS has been done. There is also **no uniformity in the software** being used by them and they are **not interconnected with the DCCBs and SCBs**. Hence, the computerisation of all the PACS is being done. The other two tiers (SCBs and DCCBs) have already been automated by the NABARD and brought on **Common Banking Software** (CBS).

It will also help in improving the outreach of the PACS as outlets for banking activities as well as non-Banking activities apart from improving digitalisation in rural areas.

International Relations

1. India Seeks Review of Indus Water Treaty

News: India has issued notice to Pakistan seeking modification to the Indus Water Treaty.

Disputes Related to Kishanganga and Ratle Projects

There are long-standing differences between India and Pakistan regarding two hydroelectric projects; **Kishanganga Project** on the Kishanganga river (tributary of Jhelum) and **Ratle Project** on Chenab. **Pakistan has raised objections to these projects**, and dispute resolution mechanisms under the Treaty have been invoked multiple times. But a full resolution has not been reached. In 2015, Pakistan asked for a **neutral expert** to examine its technical objections to the Hydel projects. In 2016, Pakistan retracted the request and **approached the World Bank** seeking the **constitution of a Court of Arbitration** under the relevant dispute redressal provisions of the Treaty. India moved a separate application asking for the appointment of a Neutral Expert. India had argued that Pakistan's request for a Court of Arbitration **violated the graded mechanism of dispute resolution** in the Treaty.

THE INDUS RIVER SYSTEM: HOW THE WATERS FLOW

EASTERN RIVERS
Sutlej, Beas, Ravi
11 cubic km
Annual flow before entering Pakistan. India has full rights on all waters. Pakistan can use whatever flows into its territory.

WESTERN RIVERS
Indus, Jhleum, Chenab
232.5 cubic km
Annual flow before entering Pakistan. India can use only about 62.2 cubic km; 170.3 cubic km reserved for Pakistan.

TOTAL AREA OF INDUS BASIN:
11.65 lakh sq km
47% in Pakistan, 39% in India, 8% in China, 6% in Afghanistan.
Source: India Water Resources Information system

Dispute Resolution Under Indus Water Treaty

The Treaty provides a 3-step resolution mechanism: **(a) Question**: If a question arises regarding the interpretation or application of the treaty, it shall first be examined by the **Indus Water Commission**; **(b) Difference**: If the Commission is unable to resolve the question, it a Difference is said to have arisen. A **Neutral Expert** can be appointed by the World Bank to resolve; **(c) Dispute**: If the dispute is still not resolved (by Neutral Expert), a Dispute arises. The dispute can be referred to a **Court of Arbitration**.

India has objected to Pakistan's approach of first asking for Neutral Expert and then reneging on it to seek appointment of Court of Arbitration. Thus,Pakistan jumped the second stage (Neutral Expert). India has held that each step must be fully exhausted before both sides agree to move on to the next step. Pakistan
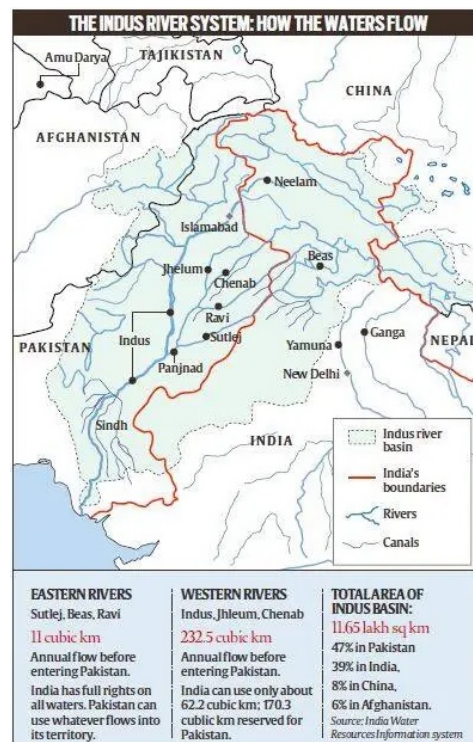
had moved on without waiting for India's concurrence. India has sent the notice to Pakistan to address the issue of two parallel mechanisms for a solution. (*Refer EPIC June 2022 for The Indus Water Treaty*).

2. China's Role in Creating Instability in the North-east India

News: At the recent All-India Conference of DGPs and IGPs, police officers noted the role of China in insurgency in the North-East India.

Key Highlights

China trying to create instability in the North east: India shares a 1,643-km long border with Myanmar that passes through 4 States: **Arunachal Pradesh, Nagaland, Manipur and Mizoram**. Given the historical and cultural linkages between people on both sides, the border is **relatively porous**. A **free movement regime** is in place under which locals can **move up to 16 km** on either side of the border. Efforts taken by both India and Myanmar to **fence the border have been protested by tribal communities** on both sides, who fear that the demarcation would lead to them losing their land and forest access to the other side.

China is exploiting this sense of alienation and insecurity among tribal communities along the India-Myanmar border in order to cause insurgency and instability in Northeast India.

Historical link between the North-east insurgents and China: Based on intelligence inputs, there exists a historical link between the insurgents and China. The arms acquired from China are smuggled through Thailand, Bangladesh and Sino-Myanmar borders into the North-eastern States.

Investment in Neighbouring Countries: China is investing huge amounts of money in the neighbouring countries of India mainly Pakistan, Nepal, Bangladesh, Myanmar and Sri Lanka in the name of infrastructure development and other financial assistance. India's neighbouring countries have described China as a crucial development partner, either as a funder or in providing technological and logistical support.

Hence, these developments demonstrate that China's presence in Southeast and South Asia is not limited to economic aspect but involves a greater, multidimensional effort to enhance its posture and further its long-term strategic interests in the region.

3. Espionage Activities by China

News: The US shot down several balloons over its airspace that were allegedly being used by China for espionage.

Concerns Regarding the Incidents

(a) Surveillance balloons were detected earlier as well, but these are technically advanced balloons. Thus, **Chinese espionage capabilities are becoming more sophisticated**; **(b)** China is increasingly tending to masquerade espionage activities behind veil of **scientific research**. China has called these balloons are research missions. In 2022, China had masqueraded a spy ship as research vessel and docked it in Sri Lanka's Hambantota port; **(c)** Same tactics can be used to undertake espionage activities against India.

Approach Required

(a) All cooperation with Chinese civilian agencies and businesses needs to be seen from the prism of the security of the State; **(b)** There is a need to **upgrade hi-tech counter-espionage measures**; **(c)** The Government of India must step up **counter-intelligence cooperation** with the US and other democracies to counter China's plans.

Advantages of Spy balloons over Spy Satellites

(a) Orbits of spy satellites are predictable. Satellites may be relocated or moved from orbit; however, this requires fuel, which is very low on these satellites and is reserved for critical duties. Hence, they can be tracked by target

countries; **(b)** Balloons can **fly at high altitudes**, beyond of range of many air-to-air and surface-to-air missiles; **(c)** Spy balloons can hover for long durations, making them ideal for watching over enemy territory; **(d) Radar-absorbent material** may help spy balloons hide; **(e)** They can help to **monitor unstable borders and identify traffickers** and rescue fishing vessels around borders and littorals.

4. Initiative for Critical and Emerging Technologies (iCET)

News: India's National Security Advisor (NSA) held talks with the US counterpart on the first dialogue on the Initiative for Critical and Emerging Technologies (iCET).

About iCET

The iCET initiative was launched by **India and the US in May 2022**. Its aim is to expand the India-US **partnership for critical and emerging technologies**, that will drive global growth, bolster both countries' economic competitiveness, and **protect shared national security interests**. The initiative is being run by the **National Security Councils** of both countries.

The **areas for cooperation** are: **(a)** Scientific research and development; **(b)** AI and Quantum research; **(c)** Defense innovation; **(d)** Space; **(e)** Advanced telecom including **6G** and semiconductors.

During the first meeting, there was an announcement of a new road map for **deeper military and techno-economic cooperation** between India and the US. Both announced the making of a **fighter jet engine** in India. GE Aerospace has applied for an **export licence for jet engine production** and **phased transfer of technology** to Indian entities.

Significance of the Initiative

(a) iCET will forge closer linkages between the Government, Academia and Industry of India and the US. It shows an alignment **of strategic, commercial and scientific** approaches in the field of technology.

(b) iCET could **catalyse the Indo-US technology cooperation** by persuading the US to lift existing **export control restrictions**. It can encourage the private sector of both countries to cooperate in sensitive sectors.

(c) India's defence sector has **over-dependence on Russia**. India's previous **Transfer of Technology (ToT)** resulted only in acquisition of 'knowhow' of methods and procedures for assembling the equipment (aircraft etc.) rather than the **underlying design principles**. So Indian scientists **remained unable to develop new technology**. ToT under iCET should address this gap.

Challenges

(a) The US Arms Export Control Act **requires clearances** from the Departments of State and Defence for ToT. It also imposes certain **restrictions on the recipient State**; **(b)** The iCET aims to make the US a dominant player in India's defence procurements by replacing Russia, but this will face stiff resistance from Russia; **(c)** While India is in dire need of technology, the US industry is firmly focused on trade.

Science and Technology

1. Exoplanets

News: The James Webb Telescope has discovered its first Exoplanet, named LHS 475 b.

About Exoplanets

Exoplanets are **planets that orbit other stars beyond the solar system**. According to NASA, to date, more than 5,000 exoplanets have been discovered. Exoplanets are of different sizes. They can be gas giants bigger than

Jupiter or as small and rocky as Earth. They are also known to have different kinds of temperatures — boiling hot to freezing cold.

Discovery of Exoplanets

Discovering exoplanets is tough as they are **small and hard to spot** around their bright host stars. Scientists rely on **indirect methods**, such as the **transit method**. This method involves measuring the **dimming of a star** that happens to have a planet pass in front of it.

Need to Study Exoplanets

Studying Exoplanets broadens human understanding of other solar systems. It can help understand planetary systems and their origins. It can also **help find extra-terrestrial life**. Study of exoplanets can help establish whether they are within the '**habitable zone**' and can support life.

When a planet is at a distance that enables such conditions to exist that can support life (like presence of liquid water), it is said to be in the '**Goldilocks zone**' or the **habitable zone**.

About LHS 475 b

LHS 475 b is an exoplanet. It is roughly the same size as Earth. It is located ~**41 light-years away**, the planet orbits very close to a red dwarf star and completes a full orbit in just 2 days.

2. Bimodal Nuclear Propulsion

News: NASA has selected Bimodal Nuclear Propulsion as the preferred propulsion technology for manned missions throughout the solar system. The system will be developed under NASA Innovative Advanced Concepts Programme. When developed, it can reduce the transit time to Mars to 45 days.

About Bimodal Nuclear Propulsion

Bimodal Nuclear Propulsion is a two-part system that includes: **Nuclear Thermal** and **Nuclear Electric Propulsion** (NTP/NEP).

The Nuclear Thermal system includes a **nuclear reactor** that will heat **liquid hydrogen** (LH2) propellant and turn it into **ionized hydrogen gas** (plasma). The ionized gas will be channelled through a **nozzle** to generate thrust.

Nuclear Electric Propulsion depends on a nuclear reactor to provide electricity to a Hall-Effect thruster (ion engine) which will generate an **electromagnetic field** that will ionize and accelerate an inert gas to create thrust.

Advantages of Bimodal Nuclear Propulsion

Bimodal Nuclear Propulsion has major advantages over conventional chemical propulsion like **(a)** Fuel efficiency; **(b)** Higher **specific impulse rating** (Isp); **(c)** Higher energy density.

A crewed mission to Mars based on conventional propulsion technology may last upto 3 years. With the Bimodal Nuclear Propulsion Technology, the transit time can be reduced to 45 days. This can reduce the duration to a few months, instead of 3 years.

Wave rotor used to decouple reactor with motive gas allowing for increased Isp
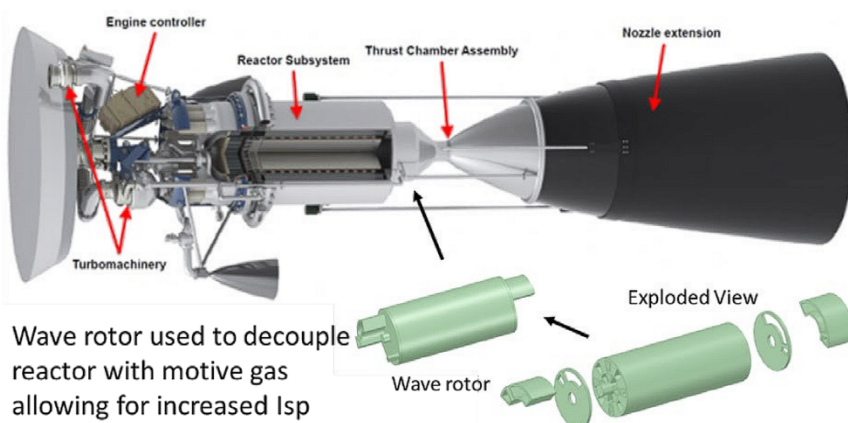
3. Aditya-L1 Mission

News: ISRO is planning to launch the Aditya-L1 mission to the Sun by June/July 2023.

About Aditya-L1

Aditya-L1 is the first Indian space mission to **observe the Sun** and the **solar corona**. The objective of the mission is to **study solar upper atmospheric** (chromosphere and corona) dynamics and understand the physics of the solar corona and its heating mechanism.

PT BOX

Lagrange Points

At the Lagrange points, the gravitational forces of the two large bodies and the centrifugal force balance each other. Hence, the Lagrange points are excellent for satellite orbits, as minimum adjustments are required to keep the orbit of the satellite stable.

The mission will be launched to the **L1 orbit**, the first **Lagrangian point** of the Sun-Earth system.

Aditya-L1 has 7 payloads, of which the primary payload is the **Visible Emission Line Coronagraph** (VELC). The other payloads include Solar Ultraviolet Imaging Telescope, Solar Low Energy X-Ray Spectrometer, Solar Wind Particle Experiment, Plasma Analyser Package among others.

4. Hydrogen Trains

News: Indian Railways has planned to operate 35 hydrogen-powered trains on various heritage and hilly routes in India under its 'Hydrogen for Heritage' Project.

About Hydrogen Trains

Hydrogen trains use **hydrogen fuel cells** rather than traditional diesel engines. The hydrogen fuel cells produce electricity by converting hydrogen and oxygen, which is then used to power the train's motors.
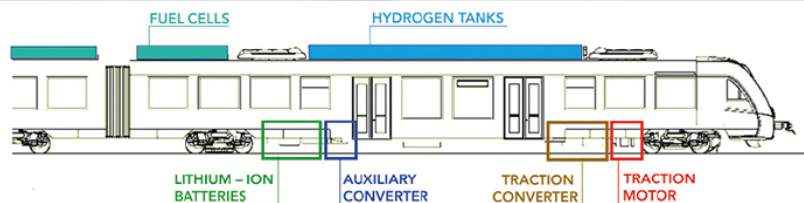

HOW A HYDROGEN TRAIN WORKS

These trains carry pure hydrogen in rooftop tanks and take oxygen from air to produce electricity in their fuel cells. The electrical energy is stored in batteries to power the motors because fuel cells cannot suddenly increase their output for acceleration. During braking, energy from the wheels is returned to the battery to increase mileage.

FUEL CELLS — HYDROGEN TANKS — LITHIUM – ION BATTERIES — AUXILIARY CONVERTER — TRACTION CONVERTER — TRACTION MOTOR

Advantages of Hydrogen Trains

Hydrogen fuelled locomotives are clean, efficient and powerful like electric motors but do not require a network of poles and overhead wires. At present, Green Hydrogen is expensive, but it's cost of production is expected to fall drastically by 2030. India has 3rd largest railway network, 37% of the trains are pulled by diesel locomotives. Indian Railways used 6. 5 million litres of diesel a day in 2019-20 to haul trains. Hydrogen trains can cut down the diesel usage.

Hence it is cleaner. 1 kg of hydrogen will replace 4.5 litres of diesel. Hence it will prove to be **economical**. The service and maintenance costs of hydrogen trains are likely to be lower.

5. National Bioenergy Programme

News: The National Bioenergy Programme has been launched to promote use of sustainable energy through use of Bioenergy.

About the National Bioenergy Programme

The **Ministry of New and Renewable Energy** had notified the National Bioenergy Programme in November 2022. The programme has been planned for a **period till 2025-26.** It has 3 sub-schemes.

(a) Waste to Energy Programme: The objective of this programme is to support setting up of **waste-to-energy projects** for generation of Biogas/BioCNG/Power/producer or syngas from urban, industrial and agricultural wastes and residues. The programme provides **Central Financial Assistance (CFA)** to project developers. (*Refer EPIC November 2022 for Waste-to-Energy (WtE) Plants: Benefits and Concerns*).

(b) Biomass Programme: It is aimed at supporting the manufacturing of briquettes and pellets, apart from the promotion of biomass (non-bagasse) based cogeneration in industries.

(c) Biogas Programme: The objective of this programme is to support setting up of biogas plants for clean cooking fuel, lighting, meeting thermal and small power needs of users which ultimately results in GHG reduction, improved sanitation, women empowerment and creation of rural employment.

6. CAR T-Cell Therapy

News: CAR T-Cell Therapy has received worldwide attention due to its promising prospects to cure cancer.

About CAR T-Cell Therapy

The 3 major forms of treatment for any cancer are **surgery** (removing the cancerous cells), **radiotherapy** (delivering ionising radiation to the tumour), and **systemic therapy** (administering medicines that act on the tumour). CAR T-Cell Therapy is the new type of therapy.

Unlike chemotherapy or immunotherapy, which require mass-produced injectable or oral medication, CAR T-cell therapies **use a patient's own cells**. Hence, they're called '**living drugs**'.

Working of CAR T-Cell Therapy

In this therapy, the patient's blood is drawn to harvest T-cells. **T-cells are immune cells** that play a major role in **destroying tumour cells**. Researchers then modify these cells in the laboratory so that they **express specific proteins** on their surface, known as **Chimeric Antigen Receptors** (CAR). They have an affinity for proteins on the surface of tumour cells.

These modified cells are **infused back into the patient's bloodstream** after conditioning them to multiply more effectively. This modification in the cellular structure allows CAR T-cells to effectively **bind to the tumour and destroy it**. The final step in the tumour's destruction involves its clearance by the patient's immune system.

TREATMENT IN INDIA WOULD COST A 10TH OF ₹3-4CR IN US

Use of CAR T-Cell Therapy

CAR T-cell therapy has been approved for **leukaemia** (cancers arising from the cells that produce white blood cells) and **lymphoma** (arising from the lymphatic system).

It is also used among patients with cancers that have returned after an initially successful treatment or who haven't responded to previous combinations of chemotherapy or immunotherapy.

The **complexity of preparing CAR T-cells** has been a **major barrier** to the therapy. The first clinical trial showing they were effective was published almost a decade ago. The first indigenously developed therapy in India was successfully performed only in 2022. Trials are underway in India, with companies looking to indigenously manufacture CAR T-cells more economically. The preliminary results have been encouraging.

7. Role of Scientific Departments and Institutions in Realizing Vision of Union Budget 2023-24

News: Various Scientific Research Institutions have a critical role to play in realizing the vision laid out in the Union Budget 2023-24.

Role of Scientific Institutions

Council of Scientific and Industrial Research (CSIR): **(a)** CSIR has a presence on all focus areas of this year's budget. For example, it plays an important role in Green Hydrogen Research and Development (R&D) under the **National Hydrogen Mission**; **(b)** It also focuses on **National Mission to eliminate Sickle Cell Anaemia** by 2047; **(c)** It has an ongoing **AI programme to augment AI application in several areas**. A new programme has been launched to promote innovation in pharmaceuticals.

Ministry of Science and Technology: The Union Budget allocated **INR 2,000 crore** more to the Ministry of Science and Technology than the previous budget. This is an added advantage for the development in the field of science and tech.

Department of Biotechnology (DBT): Biotechnology has a major role to play in finding sustainable solutions for ensuring green growth (as envisaged in the Union Budget): **(a)** DBT is developing a policy framework for '**high-performance biomanufacturing**' to have world-class facilities and workforce in synthetic biology-based manufacturing practices; **(b)** DBT is focused to bring improvements in Science and Technology (S&T) in healthcare through '**One Health**'; **(c)** DBT is working to operationalise the **Tuberculosis Genomic Surveillance for drug-resistance**. It is also developing a programme to genetically characterise minor millets.

Issues with the Union Budget 2023-24

(a) To compete at the international level in knowledge generation, the current level of **S&T expenditure** is inadequate. **Only 0.36% of the budget** has been allocated to the Ministry of S&T.

(b) The budget for Departments of Biotechnology, Space and CSIR have been reduced, adjusting for inflation.

(c) The New Education Policy 2020 recommends increasing the education spending to 6% of GDP. However, education has only received 2.5% of this budget.

Environment

1. Economic Risks from Transition to Clean Energy

News: According to a study, India's financial sector is highly exposed to risks of economic transition from fossil fuels to clean energy.

Key Highlights of the Study

Loans and Bonds to fossil fuel sector: ~ 60% of lending to the mining sector was for oil and gas extraction; ~20% of manufacturing sector debt is for petroleum refining and related industries. India's financial sector is **highly exposed** to activities related to fossil fuel.

Financial Institution's transition to clean energy: India's financial institutions lack expertise to advise on transition from fossil fuel to clean energy e.g., only **4 of 10 major financial institutions surveyed collect**

information on **Environmental, Social and Governance (ESG) risks** and these firms do not systematically incorporate that data into financial planning.

High carbon Industries heavily indebted: High-carbon industries (power generation, chemicals, iron and steel, and aviation) account for 10% of outstanding debt to Indian financial institutions. However, these industries are also heavily indebted and therefore **have the less financial capacity to respond to shocks** and stresses.

Less Lending to renewables: The financial decisions of Indian banks and institutional investors are **locking the country into a more polluting**, more expensive energy supply e.g., only 17.5% of bank lending to the power sector has been to pure-play renewables. India has **much higher electricity from carbon sources** than the world average, despite its vast potential for cheap solar, wind and small hydropower.

2. Light Pollution: Artificial Skyglow

News: According to a study, light pollution is growing rapidly. The number of stars visible to the naked eye in the night sky has reduced by more than half over the last 2 decades.

About the Study on Artificial Skyglow

The human eye should be able to perceive several thousand stars on a clear, dark night. But the growing **artificial brightness** at night has reduced the visibility. As sky brightens up with artificial light, the fainter objects are not visible to the naked human eye. Over the past 10 years, the sky has brightened by 9.6%. A large number of stars that were once visible are no longer visible.

Consequences of Artificial Glow

(a) Lit beaches deter **sea turtles** from coming ashore to nest; **(b)** Skyglow keeps **trees** from sensing seasonal variations; **(c)** Young **burrow-nesting seabirds** don't take flight unless the nesting site becomes dark; **(d) Clownfish** eggs don't hatch when exposed to artificial light at night, killing the offspring; **(e)** Skyglow interferes with multiple aspects of **insect life** and allows insect predators to hunt for longer; **(f)** Disrupting the **circadian rhythm**, artificial light at night can hamper the production of melatonin, an influential hormone in the human body which affects **sleep, moods and cognition**.

3. Clean Energy Transition: Observation in the Economic Survey 2022-23

News: According to the Economic Survey 2022–23, India is leading one of the most ambitious clean energy transitions in the world.

Key Highlights from the Economic Survey

India's Forest Cover: India ranks 3rd globally with respect to the net gain in average annual forest area between 2010 and 2020. This has been possible due to policies and initiatives like Green India Mission, Compensatory Afforestation Fund Management and Planning Authority (CAMPA), etc. Arunachal Pradesh has the **maximum carbon stock** in forests and J&K contributes the maximum per-hectare carbon stock.

Preservation of Ecosystems: India now has **75 Ramsar sites** for wetlands. Mangrove cover increased by 364 sq. km. in 2021 as a result of various regulatory and promotional measures.

Transition to Renewable Energy: Between 2014-2021, total investment in renewables stood at **US$ 78.1 billion** in India. The likely installed capacity by the end of 2029-30 is expected to be more than 800 GW, of which non-fossil sources would contribute **more than 500 GW**, resulting in the decline of the average **emission rate** of around 29% by 2029-30 compared to 2014-15.

National Green Hydrogen Mission: Its aim is to make India **energy-independent** and to **decarbonize** the critical sectors. It would result in reduction of **3.6 Giga tonnes** of CO_2 emission by 2050.

Finance for Sustainable Development: **(a) Green Bonds:** The issuance of **Sovereign Green Bonds** will help the Government to tap the requisite finance from potential investors for deployment in public sector projects aimed at reducing the carbon intensity of the economy; **(b)** A **Green Finance working committee** has been set up to oversee and validate key decisions on the issuance of Sovereign green bonds.

Business Responsibility and Sustainability Report (BRSR): SEBI has issued new sustainability reporting requirements under the BRSR. BRSR was made **mandatory** for the top 1000 listed entities (by market capitalisation) from 2022-23.

India at COP 27: India has updated its Nationally Determined Contributions and made them more ambitious. India's **Long-Term Low Carbon Development Strategy (LT-LEDS)** focuses on the rational utilization of national resources with due regard to energy security.

The survey also highlights the achievement in **doubling the population of tigers** in 2018, four years before the targeted year 2022. The population of **Asiatic Lions** has also shown a steady increase, with a population of 674 individuals in 2020 (523 lions in 2015).

4. Green Initiatives in Union Budget 2023-24

News: The Union Budget has launched several initiatives for Green Transition.

About Union Budget 2023-24 and Green Initiatives

'Green Growth' has been listed as one of the 7 priorities of Union Budget 2023-24.

Green Hydrogen: An outlay of INR 19,700 crore has been announced for the National Green Hydrogen Mission. The target for the mission is Annual production of 500 million metric tonnes of green hydrogen by 2030. (*Refer EPIC January 2023 for National Green Hydrogen Mission*).

Energy transition: The Budget has provided INR 35,000 crores for priority capital investment toward energy transition, Net Zero objectives, and energy security (Union Ministry of Petroleum and Natural Gas).

Renewable Energy Transmission Line Project: The Inter-state transmission system for evacuation and grid integration of 13 GW renewable energy from Ladakh will be constructed with an investment of INR 20,700 crore including central support of INR 8,300 crore.

Battery Storage: To spur sustainable development, the Budget announced **viability gap funding** for battery energy storage systems with a capacity of 4,000 MWh (megawatt-hour).

Green Credit Programme: In order to encourage behavioural change, a **Green Credit Programme** will be notified under the Environment Protection Act, 1986. This programme will incentivise environmentally sustainable and responsive actions by companies, individuals, and local bodies and help mobilize additional resources for such activities.

Vehicle replacement: Funds have been allocated for the **Vehicle Scrapping Policy** mentioned in Budget 2021-22. States will also be supported in replacing old vehicles and old State ambulances.

5. Risk of Glacial Lake Outburst Floods (GLOFs) in India

News: According to a study, 3 million Indians live in areas where GLOFs can happen at any time.

About GLOFs

Retreating glaciers, result in the formation of lakes at their tips. These lakes are called **proglacial lakes**. These lakes are often bound by sediments, boulders, and moraines.

If the **boundaries of these lakes are breached**, the downstream areas get flooded. This is known as **Glacial Lake Outburst Flood**.

They involve **sudden release of water** in large quantities. They tend to be **rapid events**, lasting few hours (can last for few days sometimes).
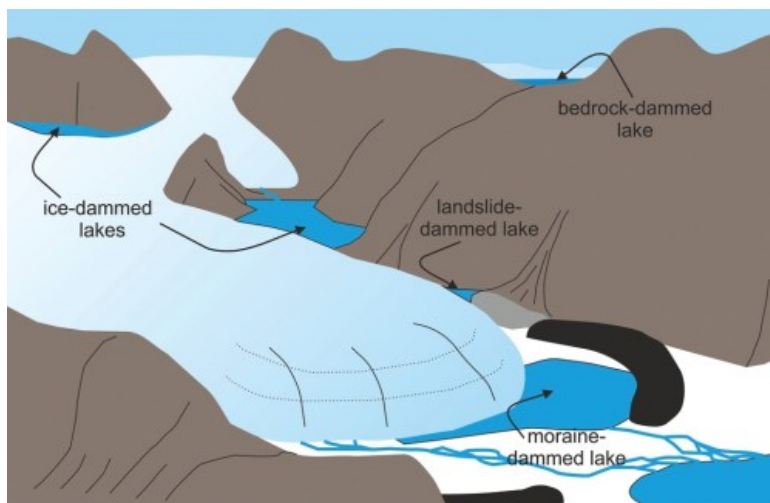
Key Findings of the Study

Rapid deglaciation over the last 20 years has led to the growth of many large glacial lakes. Majority of the globally exposed population (to glacial lakes) lives in the region of **High-Mountain Asia**. India, Peru, China and Pakistan account for more than 50% of the globally exposed population.

Risk is dependent on the number of people exposed, and not solely on the size of glacial lakes. Greenland, with large number of glacial lakes, is at low risk due to its scarce population.

State of India's Environment Report (2022, by Centre for Science and Environment) has noted a 40% increase in water spread area in India, China and Nepal, posing a huge threat to seven Indian States and UTs. These are J&K, Ladakh, Himachal Pradesh, Sikkim, Assam, Bihar and Arunachal Pradesh.

Steps Required

There is insufficient time to warn downstream populations and take effective action as GLOF events are sudden and rapid.

Hence, improvements are urgently needed in **designing early warning systems** alongside **evacuation drills** and **other forms of community outreach** to enable more rapid warnings and emergency actions in these highly exposed areas.

History, Art and Culture

1. *Purana Qila*

News: The Archaeological Survey of India (ASI) is all set to begin excavation at Delhi's Purana Qila again.

About *Purana Qila*

It is a 16th-century fort. It was built by Sher Shah Suri and the Mughal emperor Humayun. The walls of the *Purana Qila* are made of enormous red stones having minimal ornamentation and decoration.

The major attractions inside the fort are the **Qila-i-Kuhna, Mosque** of Sher Shah Suri, **Sher Mandal** (a tower, traditionally associated with death of Humayun), a stepwell

and the remains of the extensive rampart which has 3 gates.

Earlier Excavations

Excavations have revealed that the *Purana Qila* stands at the site of **Indraprastha**, the capital of the **Pandavas**. It is also the only place in Delhi, which has cultural deposits of the last 2,500 years in its various layers, from the **pre-Mauryan** to the modern era.

The findings and artefacts unearthed in earlier excavations comprise **painted grey ware**, belonging to 900BC, an **earthen pottery** sequence from Maurya to Shunga, Kushana, Gupta, Rajput, Sultanates and Mughal periods.

2. Mughal Gardens in the *Rashtrapati Bhavan* renamed as *Amrit Udyan*

News: Mughal Gardens in the *Rashtrapati Bhavan* in Delhi have been renamed as *Amrit Udyan*.

About the Mughal Gardens

The Mughals were known to appreciate gardens. *Baburnama* notes Persian *Charbagh* style as Babur's favourite kind of garden. The *Charbagh* structure was intended to create a representation of an earthly utopia in which humans co-exist in perfect harmony with all elements of nature. A defining feature of these gardens is the **use of waterways to demarcate the various quadrants of the garden**. They were crucial aspect of aesthetics and to maintain the flora of the garden. Fountains were often built, symbolising the '**cycle of life**'.

From the gardens surrounding Humayun's Tomb in Delhi to the Nishat Bagh in Srinagar, all are built in this style.
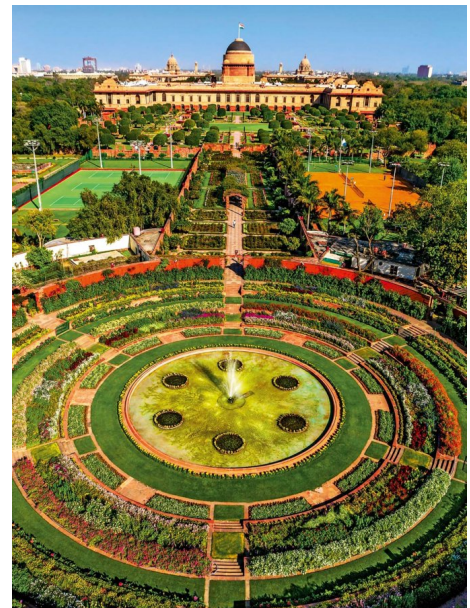
Mughal Gardens in the *Rashtrapati Bhavan*

In 1911, the British shifted the capital from Calcutta to Delhi. About 4,000 acres of land was acquired to construct the Viceroy's House. **Sir Edwin Lutyens** designed the building on Raisina Hill.

Lutyens' designs combined elements of **classical European architecture** with Indian styles. **Lady Hardinge**, the wife of the then Viceroy, urged planners to create a Mughal-style garden. While building, the Britishers introduced more than 250 different varieties of hybrid roses gathered from every corner of the world.

Evolution since Independence

C Rajagopalachari, the last Governor General of India, during a period of food shortage in the country, ploughed the lands and dedicated a section of the garden to foodgrains. Today, **Nutrition Garden**, popularly known as *Dalikhana*, stands in that spot.

President R Venkatraman added a cactus garden and **APJ Abdul Kalam** added many theme-based gardens, from the musical garden to the spiritual garden.

3. Heritage Status to Visva-Bharati University

News: Visva-Bharati University will soon get the 'heritage' tag from UNESCO. It will have the distinction of world's first living heritage university.

About Visva-Bharati University

Visva-Bharati is a public research **Central University** and an **Institution of National Importance,** located in Shantiniketan, West Bengal. It was founded in 1921 by **Rabindranath Tagore**. He called it Visva-Bharati, which means the communion of the world with India. In 1922, Visva-Bharati was inaugurated as a Centre for Culture with exploration into the arts, language, humanities and music.

After Independence, it was given the status of Central University in 1951. Its first vice-chancellor was Rathindranath Tagore, the son of Rabindranath Tagore. Rabindranath believed in **open-air education** and introduced that system which prevails to date.

The structures in this institute constitute a myriad of architectural expressions which are as diverse as the Kalo Bari, a mud structure with coal tar finish and sculpture panels. There are several murals and paintings on Cheena and Hindi Bhavan, created by the illustrious artists like Benodebehari Mukhopadhyay, Nandalal Bose, Surendranath Kar and Somnath Hore.

4. Vijaynagara Kingdom

News: Salman Rushdie has released a new novel 'Victory City' – a fictionalized story of Vijayanagara Kingdom.

About Vijayanagara Kingdom

Vijayanagara Empire was founded in 1336 by *Harihara I* and *Bukka Raya I* of the *Sangama dynasty*. The kingdom expanded from the banks of the **Tungabhadra river** with **Hampi** as its capital.

The kingdom reached its peak under *Krishna Deva Raya* (1509-1529), and enjoyed military superiority to its rival kingdoms: Bahmani Sultanate, the Golconda Sultanate and the Gajapatis of Odisha.

At its peak, the kingdom stretched from Goa to the parts of southern Odisha and to the southern tip of India.

Economy During Vijayanagara Kingdom

The economy was largely dependent on agriculture, and trade thrived through its many ports on both coasts. Traveller **Abd al-Razzaq Samarqandi** chronicled that the ports of Mangalore, Honavar, Bhatkal, Barkur, Cochin, Cannanore, Machilipatnam and Dharmadam saw traders from Africa, Arabia, Aden, China and Bengal. The ports also served as shipbuilding centres.

The principal exports were pepper, ginger, cinnamon, cardamom, myrobalan, tamarind timber, anafistula, precious and semi-precious stones, pearls, musk, ambergris, rhubarb, aloe, cotton cloth and porcelain.

Coins were minted by the State as well as by merchant guilds using gold, silver, copper and brass.

Architecture and Literature During Vijayanagara Kingdom

Literature in Tamil, Telugu, Kannada and Sanskrit was created.

Vijayanagara architecture is a vibrant combination of the **Chalukya, Hoysala, Pandya** and **Chola styles**.

The *Prasanna Virupaksha* temple of *Bukka I* and the *Hazara Rama* temple of *Krishna Deva Raya* are examples of Vijayanagara's characteristic style and intricate artistry.

Vijayanagara's capital **Hampi is a UNESCO World Heritage Site**. According to the accounts of foreign travellers, by 16th century, Hampi-Vijayanagara was probably the **2nd-largest urban settlement** in the world (after Beijing).

Miscellaneous

1. China's Population Decline

News: China's population declined by 850,000 in 2022. India's Fertility Rate has reached replacement level.

Impact on Chinese Economy

The Chinese Government has done away with the 'one-child' policy, yet birth rate has been falling. The number of births in China in 2022 declined by 10% compared to 2021. China's 16-59 year **working age population has declined** by 75 million between 2010 and 2022, and is projected to fall below 50% by 2045. Wages are rising. Labour-intensive jobs are moving out.

The number of elderly will peak by 2050 at **35% of the population**. Chinese authorities have estimated that spending on healthcare of the elderly will take up **26% of the GDP by 2050**.

India's Population Trend

(a) India's fertility rate has halved between 1990 and 2020. In 2022, India's fertility rate was **estimated to be 2.01**. Fertility rate in urban India has fallen from 2.06 in 2005-06 to 1.63 in 2019-21. The decline in rural India was from 2.98 to 2.14 in the same period. *(Refer EPIC July 2022 for Issues Related to Population in India)*.

(b) India's population is poised to **surpass China** in 2023. India's **proportion of child and elderly population** in 2020 was similar to China's in 1980. It was the time when the **economic boom** started in China.

(c) Although fertility rates have reached replacement levels, India's population is projected to shrink only after touching 1.7 billion around 2060 AD.

(d) The share of the working-age population crossed 50% in 2007 and will peak at 57% in mid-2030s. Reaping the **demographic dividend** is entirely contingent upon the creation of meaningful **employment opportunities** for a young population. There is a need for heavy investments in **healthcare** and **education**.

2. Global Risks Report, 2023

News: The World Economic Forum (WEF) has released the 18th Edition of the Global Risks Report, 2023.

About Global Risk Report

Global Risks Report is an **annual report** released by the WEF. The report is based on a survey that tracks global risk perceptions among risk experts and world leaders in business, government and civil society. It examines risks across 5 categories: **economic**, **societal**, **environmental**, **geopolitical** and **technological**.

Global risk is defined as the possibility of the occurrence of an event which would negatively impact a significant proportion of global GDP, population or natural resources.

Key Findings of the Report

Major Global Risks

Next 2 years: Cost of living crisis, natural disasters, extreme weather events, geo-economic confrontation, failure to mitigate climate change and large-scale environmental damages, among others.

Next 10 years: Failure to mitigate climate change and climate change adaptation, biodiversity loss, large-scale involuntary migration and natural resources crises amongst others.

Climate Action and Biodiversity Loss: The world has struggled to make the required progress on climate change despite 30 years of global climate

	2 years		10 years
1	Cost-of-living crisis	1	Failure to mitigate climate change
2	Natural disasters and extreme weather events	2	Failure of climate-change adaptation
3	Geoeconomic confrontation	3	Natural disasters and extreme weather events
4	Failure to mitigate climate change	4	Biodiversity loss and ecosystem collapse
5	Erosion of social cohesion and societal polarization	5	Large-scale involuntary migration
6	Large-scale environmental damage incidents	6	Natural resource crises
7	Failure of climate change adaptation	7	Erosion of social cohesion and societal polarization
8	Widespread cybercrime and cyber insecurity	8	Widespread cybercrime and cyber insecurity
9	Natural resource crises	9	Geoeconomic confrontation
10	Large-scale involuntary migration	10	Large-scale environmental damage incidents

Risk categories: Economic | Environmental | Geopolitical | Societal | Technological

advocacy and diplomacy. Biodiversity is declining faster than at any other point during human history.

Dangerous interconnections: In next 10 years, the interconnections between biodiversity loss, pollution, natural resource consumption, climate change and socioeconomic drivers will make for a dangerous mix.

Major Risks to India

A cost of living crisis, digital inequality, geopolitical contest for resources, natural disasters and extreme weather events are the biggest risks for India over the short and medium term.

Extreme weather events in India: India recorded extreme weather events on 291 of the 334 days between January 1 and November 30, 2022. A region within India witnessed an extreme weather event for more than 87% of the time in 11 months.

3. Zero Draft of Global Pandemic Treaty

News: The WHO has published the 'Zero Draft' of the Pandemic Treaty.

About the Global Pandemic Treaty

In its special session in December 2021, The **World Health Assembly** had taken the decision to form a global treaty to '***strengthen pandemic prevention, preparedness and response***'.

Post this resolution, an Inter-governmental Negotiating Body (INB) was constituted to negotiate the treaty.

The treaty is focused to **enhance the healthcare systems** to enable them to handle the future pandemics and health emergencies more efficiently and ensure more **coordinated response**.

The draft recognizes **common but differentiated responsibilities and capabilities** in pandemic prevention, and response as one of its guiding principles.

Need for Global Partnership

(a) Infectious diseases like COVID-19 spread rapidly. **Coordinated efforts** are necessary for **containment**; **(b)** Strengthening global partnerships will help in **building resilience** to cope with the threats posed by pandemics and other man-made and natural disasters; **(c)** Global partnerships will help in **building mutual trust** and understanding by agreeing upon **common rules and standards** and sharing of **best practices**.

Key Provisions in the Draft

(a) Definition of Pandemic: Global spread of pathogen that: **(i)** Infects human populations with limited or no immunity; **(ii)** having high transmissibility; **(iii)** burdening health systems with severe morbidity and high mortality; **(iv)** Causing social and economic disruptions; **(v)** Requiring national and global collaboration and coordination for its control.

(b) Intellectual Property Rights: The Draft calls for IPRs to be **waived off** during pandemics which would allow for wider access to life-saving drugs and vaccines more quickly.

(c) Allocation of pandemic products to WHO: The Draft proposes that 20% of pandemic-related products like vaccines, diagnostics, personal protective equipment and therapeutics should be allocated to the WHO which will then ensure their **equitable distribution**. 50% of these pandemic products allocated to WHO (10% of global production) should be **donated** while other 50% would be bought for an 'accessible' price.

(d) Constitution of a Pathogen Access and Benefit-Sharing system (PABS): Under this, genomic sequences of all pathogens with pandemic potential, and the benefits that come with such information, are to be shared on an 'equal footing' in the system. The information is to be shared on a publicly accessible platform and in a time-bound manner.

(e) It calls for setting up WHO **Global Pandemic Supply Chain and Logistics Network** to ensure better and fairer distribution of counter-measures as well as a global compensation scheme for vaccine injuries.

Pointly

1. **Groningen Gas Field (Netherlands)**

    It is a natural gas field in Groningen province in the North-eastern Netherlands. It is the **largest natural gas field in Europe** and one of the largest in the world. The gas field was discovered in 1959. Gas extraction in the Groningen gas field resulted in **subsidence above the field**. From 1991 this was also **accompanied by earthquakes**. This led to damage to houses and unrest among residents. The Netherlands has planned to shut down the field by the end of 2023.

2. **Earthquake in Turkey**

    An earthquake of magnitude 7.8 struck south-central Turkey and Northwest Syria. The epicentre was 37 km (23 mi) west–northwest of Gaziantep in Turkey. It was one of the largest **strike-slip earthquakes** to occur on a continent in recent times. The earthquake was caused by the **northward movement of the Arabian plate** and grinding against the **Anatolian plate**. The earthquake has reportedly killed more than 46,000 people in Turkey and 6,600 people in Syria.

3. **Operation Dost**

    India launched 'Operation Dost' to extend assistance and provide relief to Turkey and Syria, after the Earthquake. Under the operation, India has sent **search and rescue teams** including three teams of the **National Disaster Response Force** (NDRF), a field hospital, materials, medicines and equipment to Turkey and Syria.

4. **India-France-UAE Trilateral**

    India, France and the UAE have announced the creation of a formal **trilateral cooperation initiative**. The Trilateral Cooperation Initiative will act as a platform to work together in the fields of **nuclear** and **solar energy**, **tackling climate change** and **preserving biodiversity**. It will also work together in **defence**, countering **infectious diseases**, and promoting **cooperation in global health organizations** such as the WHO, Gavi-the Vaccine Alliance, the Global Fund, and Unitaid.

5. **Global Biofuels Alliance**

    India, **Brazil** and **the US** will work towards establishing Global Biofuels Alliance. They are leading biofuel producers and consumers. Its aim will be to facilitate cooperation and **intensify the use of sustainable biofuels**. The alliance will emphasize on strengthening markets, facilitating global biofuels trade, and provision of **technical support** for national biofuels programs worldwide. It will collaborate with relevant agencies and initiatives in the bioenergy, bioeconomy, energy transition

fields like the Biofuture Platform, the Mission Innovation Bioenergy initiatives and Global Bioenergy Partnership (GBEP).

6. Global Bioenergy Partnership (GBEP)

It was founded in 2006. GBEP brings together public, private and civil society stakeholders in a joint commitment to promote bioenergy for sustainable development. The Partnership focuses its activities on three strategic areas: Sustainable Development, Climate Change, Food and Energy Security. India is one of the observer countries.

7. Etalin Hydroelectric Project

It is envisaged as a **run-of-the-river scheme** on rivers **Dri** and **Tangon** in the Dibang Valley District of Arunachal Pradesh. Dir and Tangon are both tributaries of the **Dibang** River (tributary of Brahmaputra). The project will require the **diversion of 1,165.66 hectares of forest land** and the felling of more than 280,000 trees. The project would **displace thousands of people**, many from indigenous communities. The South Asia Network on Dams, Rivers and People (SANDRP) has highlighted the **geological and seismic risks** and threats to biodiversity. The project has been scrapped in its present form.

8. Exercise Tarkash

It is a **counterterrorism exercise** between India's **National Security Guard** and **US Special Operations Forces**. For the first time, the exercise included **Chemical, Biological, Radiological and Nuclear (CBRN) terror response** in its drill.

9. Operation *Sadbhavana*

Operation *Sadbhavana* (Goodwill) is a **humane initiative** undertaken by the Indian Army in Ladakh. The focus of the operation is to **improve core social indices** of Education, Women, Youth Empowerment and Healthcare with a simultaneous thrust on **capacity building** through the implementation of community/infrastructure development projects. Indian Army is running **7 Army Goodwill Schools (AGS)** in the Ladakh Region with more than 2,200 students.

10. Tethered Drones

A tethered drone is an **unmanned aerial vehicle tethered to the ground**. It consists of a **base station** on the ground and the drone, which is **connected to the station through the tether** (cable). The tethered drone can be **operated remotely** to perform specific tasks. It can be used for **surveillance of targets** beyond the line of sight for a prolonged period. They can also be launched in an **untethered mode** for a certain duration to confirm inputs.

Tethered drones are perfect for **data capture** and telemetry due to the reliability of tethered connections.

Tethered drones dramatically **reduce technical and human error** crashes in flight. A tethered drone can fly over a limited area. Because of greater control, their operation **does not require a trained pilot**. It also **does not require GPS navigation**.
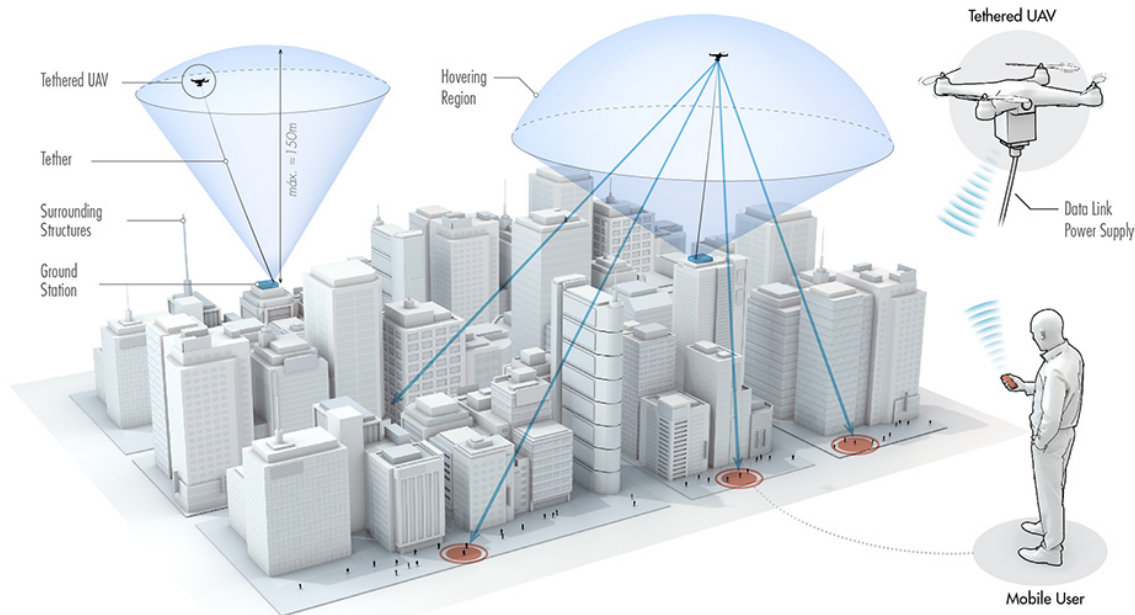
11. Jetpack Suits

A Jetpack is a device worn on the back which uses **jets of gas or liquid to propel the wearer through the air**. The Indian Army said it wanted to procure jetpack suits that can lift a person safely across deserts, mountains and high-altitude areas at a height of 3,000 m. Indian Army has floated requests for proposals for procurement of 48 jetpack suits and 130 tethered drone systems as part of its modernisation drive.

12. SSLV-D2

ISRO has successfully launched 2nd developmental flight of a Small Satellite Launch Vehicle (SSLV-D2). It placed 3 satellites in a precise orbit. These are **(a)** ISRO's Earth Observation Satellite EOS 07; **(b)** US-based firm's **Antaris' Janus-1**; **(c)** Chennai-based space start-up SpaceKidz's AzaadiSAT-2. *SSLV-D1 is considered as a partial failure as it failed to place the satellite in the desired orbit because of a shortfall in velocity.* (Refer EPIC February 2022 for Small Satellite Launch Vehicle).

13. *Azaadi* Satellite

It has been designed by 750 girl students from 75 schools across rural India. The satellite weighs around 8 kg and has 75 small experiments). It will carry a **recorded version of the national anthem sung by Rabindranath Tagore**, which will be played in space as a tribute to the country. The satellite is the result of ISRO pushing for girls to take up Science, Technology, Engineering, and Mathematics. (*Refer EPIC September 2022 for Breaking the 'Glass Ceiling': Rising Number of Women in STEM*).

Forum Learning Centre**:** Delhi - 2nd Floor, IAPL House, 19 Pusa Road, Karol Bagh, New Delhi - 110005 | Patna - 2nd floor, AG Palace, E Boring Canal Road, Patna, Bihar 800001 | Hyderabad - 1st & 2nd Floor, SM Plaza, RTC X Rd, Indira Park Road, Jawahar Nagar, Hyderabad, Telangana 500020
9821711605 | https://academy.forumias.com | admissions@forumias.academy | helpdesk@forumias.academy

14. North Star

The North Star is also known as **Pole Star**. It is a very bright star, ~ 2,500 times more luminous than the Sun. It is part of the constellation **Ursa Minor** and is around **323 light years away** from the Earth. The North star is less than 1° away from the north celestial pole, **almost in direct line with the Earth's rotational axis**.

It **appears to sit motionless** in the northern sky, with all the other stars appearing to rotate around it. Its position and brightness have allowed humans to **use it for navigation** since late antiquity.

The elevation of the star above the horizon gives the **approximate latitude of the observer**. However, upon **crossing the equator to the south**, the **North Star is lost over the horizon** and hence stops being a useful navigational aid.

15. Kilonova

A **kilonova** is a cosmic event that occurs when a **neutron star smashes into another neutron star or a black hole**. It releases heavy radiation and heavy metals like gold, silver, and selenium into outer space at tremendous velocities. A kilonova radiation also accompanies a **gamma-ray burst**. *(Refer EPIC December 2022 for Gamma-Ray Bursts)*.

16. Neutron Star

Neutron stars are formed when a **massive star runs out of fuel** and collapses. The Core (central region of the star) collapses, crushing together **every proton and electron into a neutron**. If the core of the collapsing star is between about 1 and 3 solar masses, these newly-created neutrons can stop the collapse, leaving behind a neutron star. Many neutron stars are **likely undetectable** because they **do not emit enough radiation**.

17. Natural Satellites of Jupiter

Jupiter now has the largest number of moons orbiting it. Scientists have discovered 12 new moons, bringing the total moons orbiting Jupiter to 92. The first four moons discovered are called **Galilean Moons** – lo, Europa, Calisto, and Ganymede.

The newly-discovered moons are small and far away from Jupiter, taking more than 340 days to orbit Jupiter. Many of new moons have a **retrograde orbit**; they **orbit in the opposite direction of the inner moons**. This hints at the fact that Jupiter probably captured these moons. It is likely that the smaller moons were probably formed from larger objects fragmented by collisions.

18. Quaoar

Quaoar is a **dwarf planet** in the **Kuiper belt**. Kuiper belt is a flat ring of **small icy bodies** that revolve around the Sun beyond the orbit of the planet Neptune. Quaoar is roughly one-twelfth the diameter of Earth. Its surface is composed of **low-density ice** mixed with rock. It revolves around the Sun in a roughly circular orbit once every 288 years. Signs of water ice on the surface of Quaoar have been found, which suggests that **cryovolcanism** may be occurring on Quaoar. Astronomers have spotted a ring around Quaoar.

19. Green Comet (Comet C/2022 E3)

Comet C/2022 E3(ZTF) is popularly known as the 'green comet'. It last visited Earth's neighbourhood **50,000 years ago**. Green Comet is believed to have come from the **Oort**
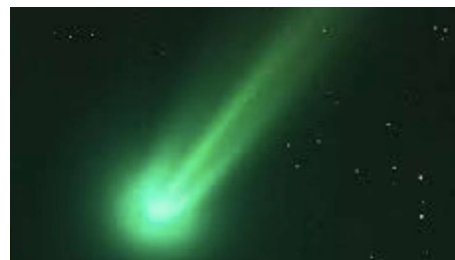
Cloud. Oort Cloud is a theorized cloud of predominantly icy planetesimals proposed to surround the Sun at distances ranging from 0.03 to 3.2 light-years.

20. Comets

Comets are **frozen rocky or gas-filled objects** that are **remnants of the formation of the solar system**. Comets revolve around Sun, in very large orbits. NASA explains that as comets orbit near the Sun, they **heat up and spew gases and dust** into a glowing head that can be larger than a planet. The remains of dust look like a **trail of light**. Green light is caused due to the presence of diatomic carbon in the head of the comet.

The molecule emits green light when excited by the ultraviolet rays in solar radiation.

21. Muons

Muons are **subatomic particles**. They are created when the **cosmic rays** from outer space collide with particles in Earth's atmosphere. ~10,000 muons reach every square metre of the Earth's surface a minute. Muons resemble electrons but are 207 times as massive (called "**fat electrons**"). They can **travel through hundreds of metres of rock or other matter** before getting absorbed or decaying into electrons and neutrinos. Muons exist for just 2.2 microseconds.

22. Muon Tomography or Muography

Muography is conceptually **similar to X-ray scans** but capable of scanning much **larger and wider structures**.

As Muons are naturally produced and present almost everywhere, placing a **muon detector** underneath the object to be scanned is sufficient. The detector tracks the number of muons going through the object from different directions, to form a 3-D image.

The image is then compared with a **muon image of the 'free sky'**. This indicates how many muons have been blocked.

Muon Tomography has been used in **archaeology** to peek inside pyramids in Egypt (*refer image, a void inside pyramid was detected*) or examining the fortress wall of Xi'an, an ancient city in China. It is also used in **customs security**, **internal imaging of volcanoes** among others.
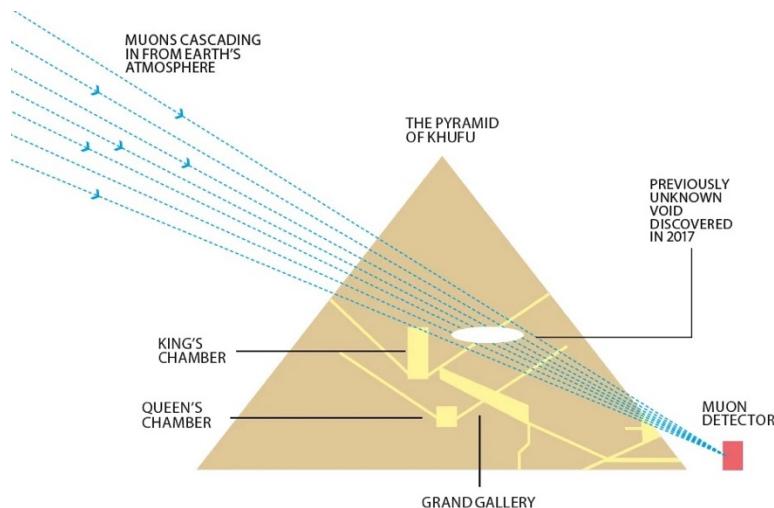
23. Neuromorphic Computing

It is a method of computer engineering in which elements of a computer are **modelled after systems in the human brain and nervous system**. In traditional computers, memory storage is physically separated from processing units. So data transfer takes more time and energy. The **human brain** (a supreme biological computer) is **smaller and more efficient** due to the presence

of a **synapse** (the **connection between two neurons**) that plays the role of **both processor and memory storage unit**.

In Neuromorphic computing, the hardware mimics **a biological synapse** that **monitors and remembers the signal** generated by the stimuli. Neuromorphic computing uses **Artificial Neural Networks** (ANNs). Neuromorphic computers are **more efficient and use less energy**. Scientists at Bengaluru's Jawaharlal Nehru Centre for Advanced Scientific Research have developed new hardware for neuromorphic computing by using **scandium nitride** in a device to mimic a synapse. (*Refer EPIC February 2022 for Artificial Neural Networks*).

24. Quasicrystal

The structure of quasicrystals is between precise pattern of crystals (regular arrangement of atoms) and amorphous solids (irregular arrangement). In quasicrystals, the atoms are arranged in a **pattern that repeats itself at irregular, yet predictable, intervals**.

Quasicrystals have **poor heat conductivity,** hence they are **good insulators**. They can be used in **surgical instruments**, **LED lights** and non-stick frying pans. Other potential applications include selective solar absorbers for power conversion, broad-wavelength reflectors, and **bone repair and prostheses applications**.

25. MicroLED Display

Apple is reportedly shifting to microLED display technology. MicroLED is a technology that helps a display to produce **brighter and higher-contrast images** that are not possible with other known technologies like OLED. MicroLED panel format has multiple advantages which include increased brightness, better colour reproduction and viewing angles, longer life-span and lower power consumption. The basis of MicroLED technology is **Sapphire**.

26. BharOS

IIT Madras-incubated company has recently developed the BharOS system. It is an indigenous, or homegrown, **Mobile Operating System** (OS) like Android or iOS. It has been developed to **reduce the dependence on foreign OS** in smartphones.

BharOS would offer **Native Over the Air** (NOTA) updates, meaning that security updates and bug fixes will be **automatically installed** rather than users having to check for updates and implement them on their own. It also has **No Default Apps** setting, users do not have to keep or use pre-installed apps in this mobile operating system. Technically, BharOS is very similar to Android because they share the same basics.

27. Definition of Broadband and White/Grey Spots

According to the new definition, Broadband is a data connection that is able to support interactive services, and has the capability of the minimum **download speed of 2 Mbps** to an individual subscriber. Earlier, the minimum download speed was 512 kbps (kilobits per second).

Places without cellular connectivity at all are called '**white spots**'. Places which show being 'connected' but may not let users get enough out of their access (like poor speed) are called '**Grey Spots**'.

28. Air Quality Monitoring System (AI-AQMS v1.0)

The Union **Ministry for Electronics and Information Technology** has launched the Air Quality Monitoring System (AI-AQMS v1.0). It has been developed by the Centre for Development of Advanced Computing (C-DAC), Kolkata in collaboration with ISM, Dhanbad. It is an **outdoor air**

quality monitoring station to monitor environmental pollutants like PM 1.0, PM 2.5, PM 10.0, SO_2, NO_2, CO, O_2, ambient temperature, relative humidity etc. It has been funded under National programme on Electronics and ICT applications in Agriculture and Environment (AgriEnIcs). **AgriEnIcs** is a national-level programme initiated to reform the agriculture and environment sectors with the interventions of IoT, ICT, machine learning and robotics technology.

29. R-AASMAN

The Delhi Government has launched R-AASMAN, Real-time Advanced Air Source Management Network. The website has been launched to **provide real-time data** on the **sources of air pollution in the city**. This is expected to help the Delhi government frame effective policies to curb it.

30. Nitrate Radicals

Nitrate radical is an oxide of nitrogen that consists of three oxygen atoms bound to a nitrogen atom. Nitrate radicals **oxidise gas pollutants** such as volatile organic compounds (VOCs). These VOCs **generate ozone** and secondary organic aerosol, **deteriorating air quality**. Ozone is an **air pollutant** that affects **human health** and crop yield. Secondary organic aerosol is an important component of PM2.5. A study has found that certain regions of China and India are night-time hotspots for the generation of nitrate radicals. Most VOCs come from vehicle exhausts and industrial processes.

31. Yaya Tso

Yaya Tso has been proposed as **Ladakh's first Biodiversity Heritage Site** (BHS). Yaya Tso is located in Ladakh. It is known as a birds' paradise for its beautiful lake located at an altitude of 4,820 metres. It is a **nesting habitat** for a large number of birds and animals, such as the **bar-headed goose, black-necked crane and brahminy duck**. It also has the distinction of being one of the highest breeding sites of the black-necked crane in India.

32. Biodiversity Heritage Sites (BHS)

They are considered as **unique and fragile ecosystems** (marine ecosystems, coastal or terrestrial). The criteria to declare BHS include **(a)** Richness of species; **(b)** High endemism; **(c)** Presence of rare and threatened species, keystone species, species of evolutionary significance etc. Under **Section 37 of Biological Diversity Act, 2002** the **State Government** in **consultation with local bodies** may **notify** areas of biodiversity importance as Biodiversity Heritage Sites.

33. Progress under the Green India Mission

From 2015-16 to 2021-22, the Union Government had approved a target of increasing tree and forest cover by 53,377 hectares and improving the quality of the degraded forest by 166,656 ha. However, as of December 2022, tree/forest cover had increased by 26,287 hectares (49% of the

target) and forest quality improved by only 1,02,096 hectares (61%). The States with a significant shortfall in tree cover include Andhra Pradesh, Uttarakhand, Madhya Pradesh and Kerala.

34. About the National Mission for a Green India

It is one of the 8 missions under the **National Action Plan on Climate Change**. Its aim is to protect, restore and enhance India's forest cover and respond to climate change.

The target under the Mission is **10 million hectares (Mha)** on forest and non-forest lands for increasing the forest and tree cover and improving the quality of existing forests. Improving tree cover is critical to sequester carbon and bolster India's carbon stocks as part of its climate action commitments.

35. E20 Fuel

E20 fuel is a blend of **20% ethanol** and **80% petrol**. India has already met its E10 target, (10% ethanol). The Government now aims to achieve a complete 20% blending of ethanol by 2025. (*Refer EPIC June 2022 for Amendments to the National Policy on Biofuels*).

36. Save Wetlands Campaign

The **Union Minister for Environment** has launched the 'Save Wetlands Campaign'. The Campaign is structured on a '**whole of society**' **approach** for wetlands conservation, enabling affirmative actions for wetlands conservation at all levels of society. It will include sensitizing people about the value of wetlands, increasing the coverage of wetland *mitras* and building **citizen partnerships for wetlands conservation**.

37. Mission *Sahbhagita*

It was launched by the **Ministry of Environment, Forest and Climate Change (MoEFCC)** in 2022. Its aim is to effectively manage the network of 75 wetlands of national and international significance.

38. World Wetlands Day

World Wetlands Day is observed on **2nd February** every year worldwide to commemorate the **signing of the Ramsar Convention** on Wetlands of International Importance in 1971. India has been a party to the Convention since 1982 and has so far declared **75 wetlands as Ramsar sites**. The theme for 2023 is '**Wetland Restoration**' which highlights the urgent need to prioritize wetland restoration.

39. 5th International Marine Protected Areas Congress

It was held in Canada in order to discuss the solutions to address the **Funding Gap of Marine Protected Areas (MPAs)**. Experts said that ~10 million square kilometres of the ocean must be annually brought under MPAs to protect **30% of the world's ocean by 2030** (Target under COP15 of CBD). ~ 70% of MPAs are underfunded. Countries also discussed ways to comprehensively monitor the effectiveness of protected areas. (*Refer EPIC September 2022 for The UN Treaty on High Seas*).

40. Marine Protected Areas (MPAs)

MPAs are the areas of the ocean set aside for **long-term conservation aims**. MPAs offer **nature-based solution** to support global efforts towards climate change adaptation and mitigation. Certain activities within an MPA are limited or prohibited to meet specific conservation, habitat protection, ecosystem

monitoring, or fisheries management objectives. MPAs can assist in **restoring the productivity of the oceans and avoiding further degradation**.

At present, MPAs represent only about 6% of the ocean. Of this, 2.4% are fully and highly protected and 3.6% are highly protected. Fully protected areas prevent extractive or destructive activities, while highly protected MPAs allow light extractive activities.

41. Kelp Forests

A recent study has revealed that Kelp forests are declining because of climate change. Kelp forests are **large brown algae seaweeds**. They grow in '**underwater forests**' in shallow oceans and nutrient-rich waters. They are considered as **keystone species**. Kelp forests provide **stabilizing shelter** for sea otters, and nutrient-rich food for their prey, such as fish and sea urchins. They help **reduce coastal erosion** and act as a **breakwater** during large storms. Many kelps produce **algin**, a complex carbohydrate useful in industries such as tire manufacturing, and the ice cream industry.

42. Yellow Band Disease

It is a disease that **affects corals**. It is named for the colour it turns corals before destroying them. There is no cure for the disease. Its **impact cannot be reversed, unlike the effects of coral bleaching**. Scientists believe o**verfishing**, **pollution** and **rising water temperatures** (climate change) may be making the reefs more vulnerable to yellow-band disease.

43. Spot-bellied Eagle Owl

It is also known as the forest eagle-owl. It is a large bird of prey. Its IUCN status is Least Concern. It is a forest-inhabiting species found across the Indian Subcontinent. It is found on large trees in thick forests. It feeds on small rodents and lizards. The bird makes a strange **scream similar to humans** and it is hence called the **'ghost of the forest'** in India and '**devil bird'** in Sri Lanka.
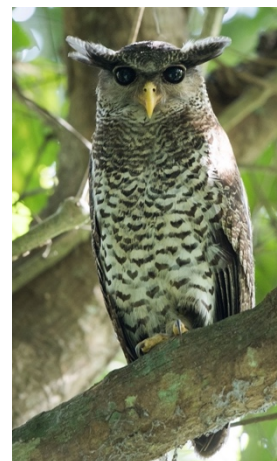
44. Great Scaup

Greater Scaup is a **medium-sized diving duck species**. Its IUCN status is Least Concern. It is distributed in Asia, Europe, the United States, and Canada. It is a rare visitor to the Indian Subcontinent. They are **highly migratory**, **breeding near arctic regions** and migrating to the warmer south from August onwards. It is known as Scaup in Europe and Bluebill in North America. The duck was sighted in Loktak lake in Manipur's Bishnupur district after a gap of over 90 years (called Sadangman locally).
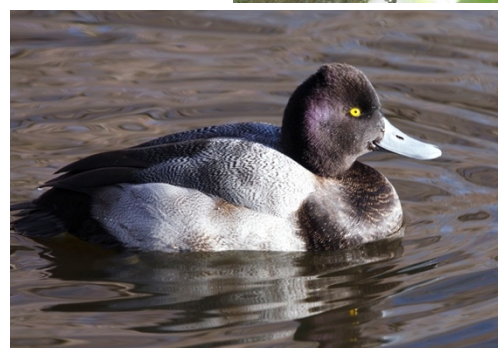
45. Mahabali Frog

Mahabali Frog is waiting to be elevated as the State Frog of Kerala. It also known as **Purple Frog**. It is named after the mythical King *Mahabali* who visits his people once a year from the underneath world. Its IUCN Status is Near Threatened. *(Refer EPIC April 2022 for Purple Frog).*

46. Vermins

The Wildlife Institute of India is working to develop **immuno-contraceptive measures** for **population management of Vermins**. Vermins refer to nuisance creatures because they **threaten humans**, **crops**, **livestock** or **property**. The **Wildlife Protection Act, 1972 has 6 schedules** that assign varying degrees of protection to animals and plants. Under Schedule I and II of the Act animals and birds (such as tigers, elephants) are offered the highest protection. **Schedule V** lists species classified as 'vermin', (common crows, fruit bats, rats and mice etc.), which may be **hunted freely**. **Section 62** of the Act grants the **Union Government the power to declare any wild animal as vermin**. **Schedule I and II species can't be declared vermins.**

47. Schemes in the Union Budget 2023-24 for Ecological Conservation

MISHTI (Mangrove Initiative for Shoreline Habitats & Tangible Incomes): It will aim at intensive afforestation of **coastal mangrove forests** and **facilitate mangrove plantations** along the coastline and on salt pan lands. The programme will operate through convergence between MGNREGS, CAMPA Fund and other sources. *(Refer EPIC November 2022 for Mangrove Alliance for Climate).*

PM PRANAM: It aims to **reduce the use of chemical fertilizers** and promote alternatives to fertilizers. It stands for PM Promotion of Alternate Nutrients for Agriculture Management Yojana, also called PM Program for Restoration, Awareness, Nourishment and Amelioration of Mother Earth.

Bhartiya Prakritik Kheti **Bio-Input Resource Centres**: To facilitate the **adoption of natural farming**, 10,000 Bio-Input Resource Centres will be set-up creating a national-level distributed micro-fertiliser and pesticide manufacturing network.

Amrit Dharohar **Scheme**: It will be implemented over the next three years to encourage **optimal use of wetlands**, and enhance biodiversity, carbon stock, eco-tourism opportunities and income generation for local communities. The scheme will emphasize on the importance of wetlands and their preservation with an outlook that is **inclusive of local communities as caretakers of the ecosystem**.

48. Jagannath Temple

The Governor of Odisha has backed the entry of foreign nationals inside the Jagannath Temple. Lord Jagannath Temple is located in Puri, Odisha. It is also known as **White Pagoda**. It is one of the four *dhams* (*char dham*) where Lord Jagannath, a form of Lord Vishnu, is worshipped along with his elder brother **Lord** *Balabhadra* and sister *Devi Subhadra*. The temple was constructed by a famous king of the *Ganga* **Dynasty** *Ananta Varman Chodaganga Deva* dating back to the 12th century.

49. Shaligram Stone

Shaligram Stone is a **fossilized ammonite**, a type of **mollusk** that lived millions of years ago. It is found in the sacred rivers of the Himalayas, particularly the **Gandaki** River in Nepal. The stone is considered to be a **representation of Lord Vishnu**, one of the primary deities in Hinduism, and is revered as a sacred object. The use of Shaligram stones in worship can be traced to the time of Adi Shankara.
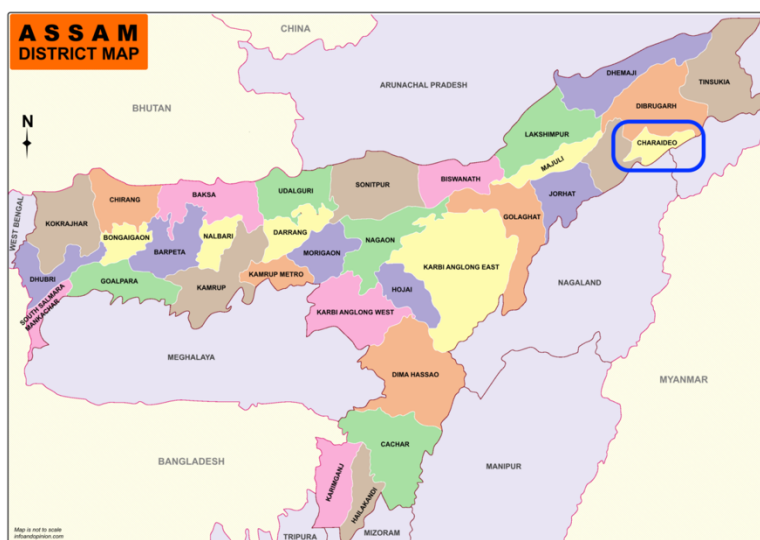

50. Petroglyphs in Aravallis

Archaeologists have discovered **petroglyphs** (an image that is carved into a rock) in the Badshahpur area of Gurugram. The petroglyphs discovered in the area include **graffiti** and **hand and footprints of humans and animals** engraved on quartzite rocks. Archaeologists believe that these carvings are **more than 10,000 years old**. The Paleolithic era spans from about 25 lakh years to 10,000 BP (before present, the carbon dating marker that archaeologists use with 1950 treated as the base year). In 2021, the archaeological department discovered a 5,000-hectare site in Faridabad's Mangar, where cave paintings were found along with rock shelters and tools.

51. Charaideo *Moidams*

Charaideo was the first capital of the **Ahom Kings** of Assam. Charaideo remained the symbolic centre of Ahom Kingdom even though the capital of the kingdom moved many times. A *moidam* is a **tumulus** (a mound of earth raised over a grave) of Ahom royalty and aristocracy. The Charaideo *moidams* are **royal burial sites** of the Ahom dynasty. While Charaideo exclusively contains moidams of Ahom royals, other moidams of aristocrats and chiefs can be found scattered across Eastern Assam. Charaideo *Moidams* were built by *Chaolung Sukhapa* the founder of the dynasty in about 1229 CE. The Union Government has decided to put forth the name of **Charaideo moidams for addition to UNESCO World Heritage Sites** list. There is currently no World Heritage site in the category of cultural heritage in the northeast out of the 32 listed in the country.

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52. *Dhamaal*

Dhamaal is a mix of Sufi and African (mostly East African) musical and dance traditions. It refers particularly to the spiritual practices of the **Siddis of Gujarat**. It is performed in two ways: **Dance Dhamaal** and **Baithaaki Dhamaal**. *Baithaaki Dhamaal* is performed in the **sitting position** and the Dance *Dhamaal* is performed in both sitting and dance positions. The spiritual songs that are sung during the *Dhamaals* are known as *zikrs*.

53. Siddis

The term Siddi refers to **Afro-Indians**: Africans who mixed with Indians through marriage and relationships. They crossed the Indian Ocean and arrived in India during the 1200s-1400s. They were **transported by Islamic invaders and Portuguese colonisers as enslaved people**, palace guards, army chiefs, harem keepers, spiritual leaders, Sufi singers, dancers and treasurers. Today, the majority of Siddis are found in the **West and Southwest of India**, in **Gujarat, Maharashtra, Karnataka and Telangana states.**

54. Soliga Community

Soligas are the **indigenous community** situated in the Biligiri Rangan Hills (B.R. Hills) in **Chamarajanagar district of Karnataka**. Soligas have been dependent on hunting and shifting agriculture traditionally. They are considered the **first settlers of India**. Their home, BR Hills, was among the **first areas to be declared a wildlife sanctuary in India** (1974). In 2011, when the region was declared a tiger reserve, the Soligas were the **first community to win resident rights in a tiger reserve**. Scientists have named a wasp species after the Soliga community.

55. Bharat Parv

It is a 6-day event organized in Red Fort Lawns by the Ministry of Tourism. It showcases the cuisine and culture of different states of India. The festival is held **annually**. This year Bharat Parv promoted **Millets.**

56. Shumang Leela

It is a **traditional form of theatre in Manipur**. Shumang Leela translates to 'courtyard performance'. It is performed in an open courtyard surrounded by spectators on all four sides. The tradition is believed to be descended from *Lai Haraoba*, a ritual of the **Meitei community** of Manipur. The plays serve as a medium to **spread awareness** among people of social, political and economic issues. Shumang Leelas may also discuss **moral values**, unity and integrity. Shumang Leela is of two types: **(a)** *Nupa Shumang Leela*, performed only by men; **(b)** *Nupi Shumang Leela*, performed only by women.

57. Chamundi Hill

Chamundi Hill is located in **Mysore, Karnataka**. **Chamundeswari Temple** is located in the hills. The temple is named after Chamundeshwari, a **fierce form of Shakti**. It is believed that Goddess Durga slayed the demon king *Mahishasura* on the top of this hill which was ruled by him. The place was later known as Mahishooru (Place of Mahisha). The British changed it to **Mysore** and later Kannadized it into Mysuru. **Karanji lake** is the most popular lake in Chamundi Hills. Local citizens have urged the government to conserve and promote the religious sanctity and environmental integrity of Chamundi Hills.

58. Etikoppaka Toys

Etikoppaka toys are traditional toys made by artisans of **Etikoppaka village** located on the banks of **Varaha River** in **Visakhapatnam** district (Andhra Pradesh). Toys are made of **soft wood** and lacquer color. Toys are coloured with natural dyes derived from seeds, lacquer, roots and leaves. The artisans mainly use the wood from trees known as '*ankudu*' (Wrightia Tinctoria) that is soft in nature. In 2017, the Etikoppaka toys acquired a Geographical Indications tag.


59. Demand for Tipraland

The new State is being demanded for the 19 indigenous tribes of Tripura. The proposed State would include the areas under the **Tripura Tribal Areas Autonomous District Council** (**TTAADC**) and some other villages where Tiprasa (indigenous people of Tripura) reside in large numbers. The demand for Tipraland was made by the Indigenous People's Front of Tripura (**IPFT**) in 2009. The demand for **Greater Tipraland goes beyond the TTAADC areas** and includes at least 36 more villages where the tribal population is in the range of 20% to 36%.

60. India's Merchandise Trade Crosses US$ 1 Trillion

India's merchandise trade crossed the $ 1 trillion mark in the calendar year 2022 with **imports worth US$ 723 billion** and **exports worth US$ 450 billion**. The trade deficit stood at US$ 270 billion.

The **US is India's biggest trade partner** at US$ 131 billion trade, followed by China (US$ 118 billion). India's trade deficit with China was US$ 87 billion, while the surplus with the US was US$ 30 billion. India's **top exporters** include **US** (US$ 80 billion), **UAE** (US$ 31 billion), **Netherlands** (US$ 19 billion), **China** (US$ 15 billion). India's **top importers** are **China** ((US$ 102 billion), **UAE** (US$ 53 billion), **US** (US$ 51 billion) and **Saudi Arabia** (US$ 44 billion).
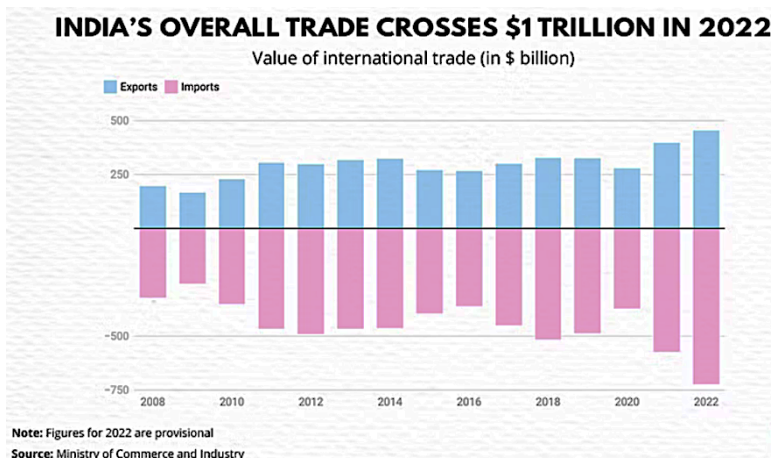
61. Global Quality Infrastructure Index (GQII)

GQII ranks the 184 economies in the world on the **basis of quality infrastructure** (QI). A formula calculates a score for each country based on its position in the sub-rankings for **metrology**, **standards** and **accreditation**. The index is supported by Physikalisch-Technische Bundesanstalt

(PTB) and the **Federal Ministry for Economic Cooperation and Development** (BMZ), Germany. India's overall rank is 10th (5th in accreditation, 9th in Standardization, 21st in Metrology).

62. XR Start-up Programme

MeitY **Start-up Hub** (under the **Ministry of Electronics & Information Technology (MeitY)),** and **Meta** have announced the list of 120 start-ups and innovators for the **XR Start-up Program**. It was launched in 2022. Its aim is to discover, nurture, and accelerate **Extended Reality (XR) technology** start-ups and innovators across India.

63. Extended Reality (XR)

Extended reality is an umbrella term referring to all **real-and-virtual combined environments** and **human-machine interactions** generated by **computer technology** and **wearables**. It includes **augmented**, **mixed**, and **virtual reality** and combines the real and digital worlds to create new kinds of interactivity and perception. These technologies provide new ways to train, educate, entertain, and collaborate.

Virtual Reality (VR)

VR visually takes the user out of their real-world environment and into a virtual environment, typically using a headset for viewing coupled with hand-held controllers to navigate the virtual space.

Augmented Reality (AR)

AR overlays digital objects (information, graphics, sounds) on the real world, allowing the user to experience the relationship between digital and physical worlds.

Extended Reality (XR)

XR refers to the spectrum of experiences that blurs the line between the real world and the simulated world. The technology immerses the user through visuals, audio, and potentially olfactory and haptic cues. The two major types of XR are virtual reality and augmented reality.

64. Puisne Judges

The word puisne has French origins, which means 'later born' or younger. The term puisne judge is used in common law countries to **refer to judges who are ranked lower in seniority**, i.e., any judge other than the Chief Justice of that court. In India, all judges have the same judicial powers, but the Chief Justice is the senior-most judge and has an additional administrative role.

65. e-Courts Project

The Union Budget has allocated INR 7,000 crore for the Phase 3 of the e-Courts Project. It was conceptualized on the basis of the '*National Policy and Action Plan for Implementation of Information and Communication Technology (ICT) in the Indian Judiciary – 2005*'. Its aim is to **improve access** to justice using technology. The project envisages initiatives like: **(a) Digital & Paperless Courts** limiting the use of paper and speeding up the disposal of cases; **(b) Online Court** to eliminate the need for physical presence of litigants or lawyers in the court; **(c)** Expansion of scope of **Virtual Courts**.

66. ABCD Campaign

Wayanad (Kerala) has become the first district in the country to provide **basic documents and facilities** (like Aadhar, Ration Card, Birth/death certificates, health insurance etc.) **to all tribes people** under the *Akshaya* **Big Campaign for Document Digitisation** Campaign. All such services are provided at a single point of contact.

67. *Yuva Sangam* Portal

The Union Government has launched the 'Yuva Sangam' portal. Its aim is to build close ties between the **youth of the North East Region** and the rest of India under the spirit of *Ek Bharat Shreshtha*

Bharat. The youth of 18-30 years from North East will get an opportunity to see different States of the country to understand their art, culture and languages. It will also give an opportunity to them to celebrate the ancient culture and natural diversity of India.

68. Advanced Traffic Management System (ATMS)

The National Highways Authority of India (NHAI) is implementing the ATMS on national highways and expressways for managing incidents of road crashes and enforcement of regulations (like speed limits). ATMS involves **intelligently integrated roadside equipment** that are connected to ensure smooth traffic movement and timely reaction to untoward incidents. The ATMS has already been implemented for around 3,000 km of National Highways. It utilizes digital database of vehicles to get information related to insurance status of the vehicle, pollution certificate, age of vehicle etc. NHAI is looking **at leveraging GIS technology for analysing drone videos** and **Network Survey Vehicle data** for identifying safety issues on highways. (*Refer EPIC September 2022 for The Issue of Road Safety in India*).

69. BHASHINI

It is **Artificial Intelligence (AI)-led language translation platform**. The Platform is a part of the National Language Translation Mission. It aims to enable all Indians to have easy access to the Internet and digital services in vernacular language, and to increase the content in Indian languages.

70. WhatsApp-based Chatbot by Government

The **BHASHINI team** is building a WhatsApp-based chatbot that relies on information generated by **ChatGPT** to return appropriate responses to queries. The first application is being developed to help farmers learn about various Government schemes. The chatbot will also let users send a question via **voice notes**. This will help farmers who are unable to type on smartphones.

71. *Bhasha Daan*

The project aims to **crowdsource voice datasets** in multiple Indian languages **as part of Project BHASHINI**. On the project's website, people can contribute in three ways: **(a)** Recording their voice samples in multiple Indian languages by reading out a piece of text; **(b)** Typing out a sentence being played; **(c)** Translating text in one language into another.

72. PAN as Identifier in Digital Platforms

The Government has announced that the **Permanent Account Number (PAN)** will be used as a common identifier for all digital systems of specified government agencies. This is expected to **ease the compliance burden of businesses**. It will eliminate the need for repeated submission of documents, ensure the authenticity of the same and lead to quicker processing of requests.

73. 'Amrit Bharat Station' Scheme

The Union Government plans to redevelop about 1,275 stations across India under the *Amrit Bharat* Station Scheme. The objectives of the Scheme include **(a)** Preparation of **Master Plans** of the Railway stations and implementation to **enhance the facilities**; **(b) Introduction of new amenities**, upgradation and replacement of existing amenities; **(c) Relocate redundant/old buildings** in a cost-efficient manner.

74. UPI for NRIs

Non-resident accounts such as **Non-resident External accounts (NRE) and Non-resident Ordinary accounts (NRO) having international numbers** will now be allowed into the UPI payment system. Users from **10 countries** will be able to avail the facility— Singapore, Australia, Canada, Hong Kong, Oman, Qatar, the U.S., Saudi Arabia, UAE and the UK. This will enable the NRIs to use the UPI payment method for making utility bill payments in India, make purchases from e-commerce or online platforms and make payments to physical merchants who accept UPI payments.

75. *Mahila Samman* Saving Certificate (MSSC)

The Government has announced a new **small savings scheme for women** called *Mahila Samman* Saving Certificate in the Union Budget 2023-24. It is a one-time small saving scheme for women. The scheme will be made available for a two-year period up to March 2025. It will have a fixed interest rate of **7.5%** for two years. The deposit can be made in the name of a woman or a girl child. The **maximum deposit amount has been kept at INR 2 lahks** and the scheme will have a partial withdrawal facility as well. MSSC will encourage more women to **adopt formal financial saving instruments** as it offers a **higher rate of interest.**

NOTE: With effect from 1ˢᵗ February 2022, the monthly ForumIAS Epic Magazine, for the month will provide holistic coverage for the said month up to 20ᵗʰ of the month. This ensures that issues / stories that occur after 21ˢᵗ of the month are allowed to fully develop and are covered wholistically in the next month.