

MONTHLY

EPIC!

*Supplementary reading material for MGP and Current Affairs classes of
ForumIAS Academy*

AN EXCLUSIVE CURRENT AFFAIRS MAGAZINE FOR

PRELIMS + MAINS

PREPARATION

September 2022

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,



Vikarsh Dahiya
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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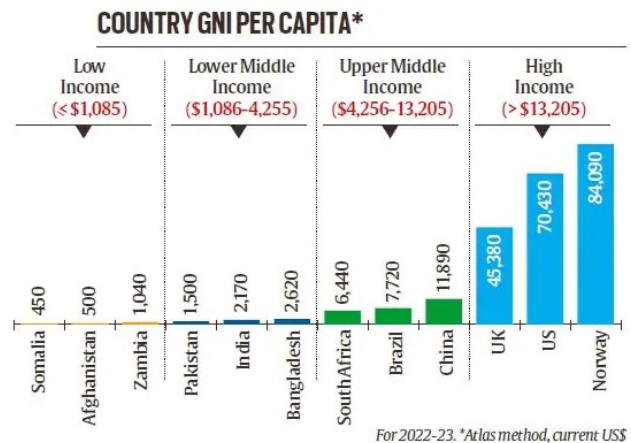
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India as a Developed Nation

News: In his Independence Day Speech, the Prime Minister had asked for working towards turning India into a developed nation by 2047.

What is a developed nation? – (1) India is world's 5th largest economy with a GDP of ~US\$ 3 trillion, but is **classified as a developing nation**; (2) There is **no agreed definition of a developed country**. International Institutions use different criteria for classification e.g., the UN uses the World Bank's categorisation based on **Gross National Income (GNI) per capita** (in current US dollars). It classifies countries into **low, lower-middle, upper-middle and high-income** countries; (3) The **low and middle-income countries are referred to as developing countries**, and the high-income economies as developed nations; (4) Apart from the income criterion, there are other broad parameters. A developed nation is: (a) Industrialized; (b) Has a high quality of life, and the Human Development Index (HDI); (c) Advanced technological infrastructure; (d) High level of industrialization; (e) Economy dominated by **tertiary** (financial, retail, legal, business process sectors) and **quaternary sectors** (knowledge-based activities such as information technology, research and development etc.). Service sector provides more wealth than the industrial sector.



Why is India classified as a developing country? – (1) **Low Per Capita Income:** India is a **lower-middle income economy** according to World Bank's classification, with per capita income less than Bangladesh. China's and UK's per capita incomes are 5.5 times and 33 times of India's respectively; (2) **Poor Social Indicators:** India's social development indicators are poor e.g., Infant Mortality Rate (IMR, the number of infant deaths per 1,000 live births) is 27 compared to OECD average of 6. Less than 33% of India's population had received tertiary education (77% in OECD). Hunger levels are high in India (Rank 101 in Global Hunger Index); (3) **Lack of Social Infrastructure:** Many Indians lack adequate access to schools, hospitals and affordable housing; (4) **Lack of Physical Infrastructure:** Urban areas lack basic amenities like clean drinking water system, sewerage network or waste treatment facilities. Urban transport infrastructure is overloaded. Urban flooding is becoming a yearly norm; (5) **Other Indicators:** India's **Human Development Index**

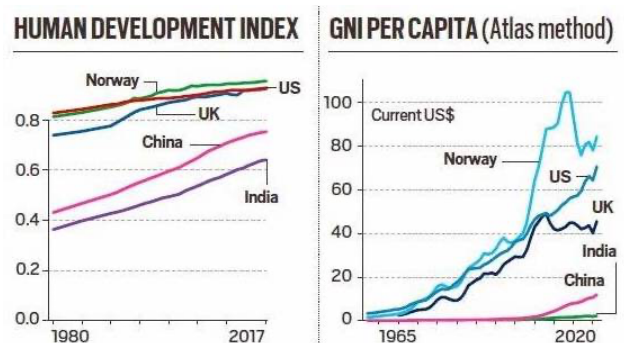
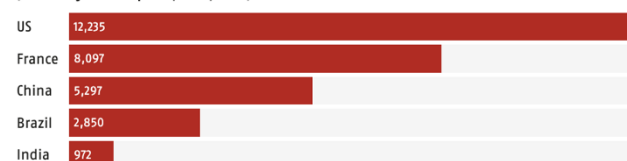


Chart 1: Human Development Index (HDI) is a summary measure of key dimensions of human development: a long and healthy life, a good education, and a decent standard of living. Source: UNDP, Human Development Report 2020, via Our World in Data. Charts 2 and 3: Source World Bank

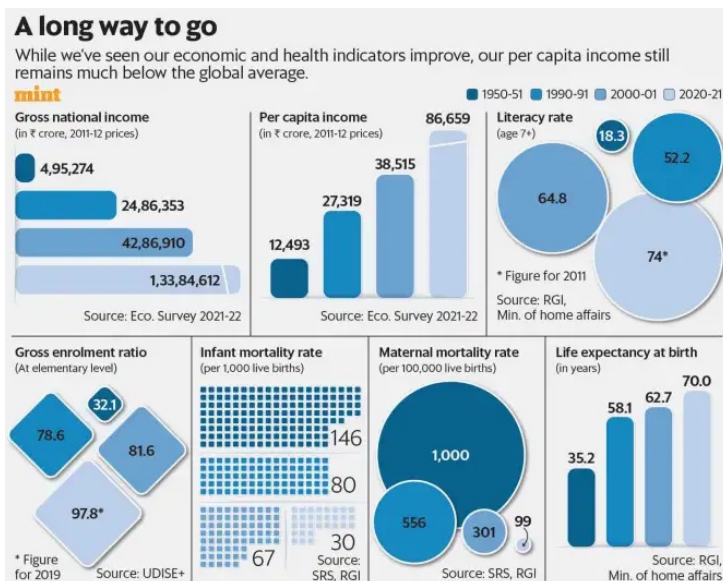
India consumes way less energy than developed world

(electricity consumption, kwh, 2020)



Score at present is 0.633 (UNDP 2021 Report) and is ranked at 132. Most developed nations have HDI Score > 0.85 (top 40 countries). India's **per capita energy consumption** is much below developed countries.

Why is India still a developing nation? – (1) Colonial Drain: The British colonial rule of ~200 years drained Indian economy. According to some estimates, India's share in the world economy declined from 24.4% in 1700 to 4.2% in 1950. India inherited a very weak economy in 1947 with poor industrial base, under-developed agriculture and poor quality of human resource (18% literacy); **(2) Slow pace of development:** Growth rate of Indian economy has been slow (for most years since Independence). The reasons include: **(a)** Large population base put financial burden on government finances; **(b)** High levels of **corruption** and **inadequate technological advancement** also slowed down the pace of growth; **(c)** ~50% of the people are still engaged in the **primary sector** (agriculture etc.) where income generation potential is low. Economists argue that **failure to undertake reforms in agriculture** (China did in '70s-80s) prevented **structural transformation of Indian economy** (higher proportion of more productive secondary and tertiary sector in employment); **(d)** The pace of economic growth for the most part since 1947 remained ~3%. This pace of economic growth was too slow to pull large proportion of population out of poverty.

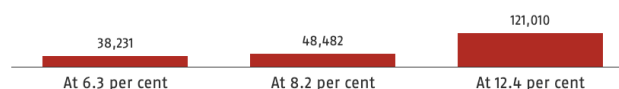


Parameter	1950	2021
GDP (Nominal)	US\$ 30 billion	US\$ 3 trillion
Per Capita Net National Income	INR 12, 493	INR 86,659
Government's Revenue Receipts	INR 171 Crore	INR 20,79,000 Crore
Foreign Exchange Reserves	INR 911 Crore	INR 45,42,615 Crore
Foodgrain Production	51 million tonnes	316.06 million tonnes
Literacy Rate	18.3%	78%

How much gap is to be covered to make India a Developed Country by 2047? – (1) India's per capita income has to grow at 12% to reach the level of OECD Countries. The historic average of India's per capita income growth rate is 2.8% only; **(2)** To catch up with the OECD economies, India will need to increase its infrastructure considerably e.g., India had only 30 colleges per 100,000 people in 2019-20. To reach OECD level of 77% tertiary education level is huge task. Social indicators like IMR, Life expectancy have to improve at a much faster pace. India's IMR is expected to be above

Incomes would have to grow at 12 per cent to reach OECD levels

India's GDP per capita, PPP (current international \$)



6.3 per cent has been the CAGR for the Indian economy for the last 25 years. 12.4 per cent level assumes that incomes in OECD countries grow at 3.5 per cent per annum--CAGR for last 25 years

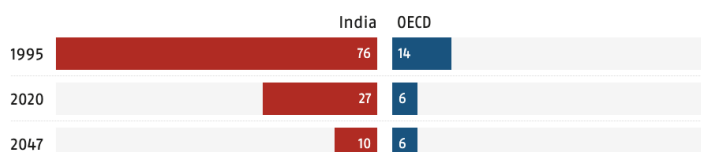
OECD Level, though the gap would have been plugged to a large extent by 2047. Hence, the biggest challenge is that the gap to be plugged with respect to the developed countries is too big.

What steps are required to make India a Developed Country? – (1) Structural Transformation: There is a need to undertake more reforms for structural transformation of the economy. It is imperative to create employment opportunities in the secondary (industrial) and tertiary (service) sectors in order to **raise income levels** and reduce the burden of population on agriculture. The transformation is necessary to **reap the demographic dividend**; (2) The **delivery standards of Government services**, especially in health and education need radical improvement. The Government must **increase public expenditure on health and education** and bring it at par with the developed economies (as % of the GDP); (3) There is a need for a strong action to **curb corruption**. This would ensure that Government benefits reach the intended beneficiaries and leakages are minimized. Similarly a check on tax evasion will ensure an increase in Government's tax revenues, which will improve room for spending on welfare sector; (4) The **urban local governance** must be transformed. The urban planning process needs an overhaul in order to ensure **sustainable and inclusive urbanization**; (5) The **deep rooted inequalities in Indian society must be eliminated**, especially gender inequalities.

Infant mortality rate will stay above OECD countries at current pace

Infant deaths per 1,000 live births

■ India ■ OECD



Middle Income Trap

Another big challenge in achieving the developed economy status is the Middle Income Trap. It means that India might **not be able to transition from a middle income country to a high income country**. In 2019, a top economist from the Economic Advisory Council to the Prime Minister (EAC-PM) had pointed out that India's growth was mostly driven by the demand generated by 100 million people at the top of the socio-economic ladder. The demand has begun to reach a saturation point and may not be able to drive future economic growth. If the situation does not improve, India may fall into the Middle Income Trap.

What has been the trend of growth of India's Per Capita Income? – (1) In 1960, India was a low-income country with per capita income around 6% of the US. India attained the status of lower middle income economy in 2008 with per capita income of about 12% of the US; (2) India's income started rising more rapidly from early 2000s when the **impact of liberalization** of economy started to become apparent. However, several experts argue that the **growth rate of India's per Capita GDP is erratic**. Only for a brief period between 2002-07 the income grew consistently above 6% per annum. For multiple years, the **growth rate has been <4%** which is **not enough to transition the economy to high income**. As an example, if per capita GDP grows at 4% per year, it will double in 18 years. In about 50 years, it will become 8 times (in present scenario from US\$ 2,000 to US\$ 16,000).

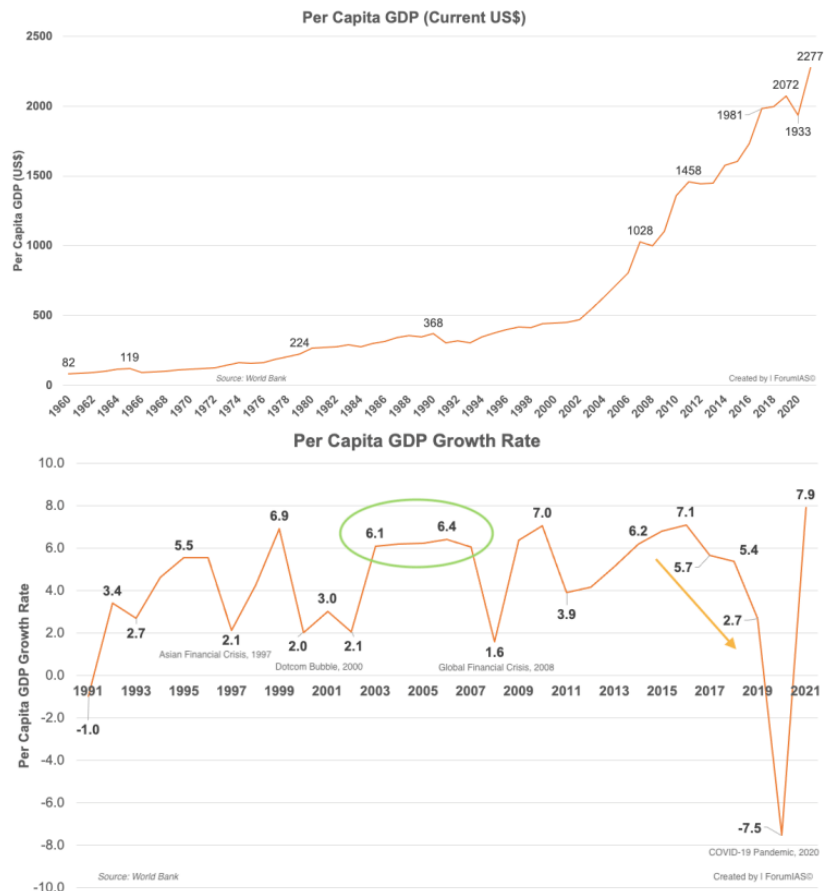
In recent years, some trends indicate **slowdown in growth rate** e.g., Private investment projects rose from INR 10 trillion in 2006 to INR 50 trillion in 2011. After that, there has been a decline to INR 40 trillion in mid-2019. The share of non-workers in the working-age population stood at 60.43% in April-June 2019. These statistics illustrate **difficulties in sustaining a consistent growth in income**. Many experts now say the country may fall into the middle income trap.

What is the Middle Income Trap? - It is a theoretical economic development situation, in which a **country that attains a certain middle-level income gets stuck at that level and is unable to transition to high-income level** (above US\$ 12,000).

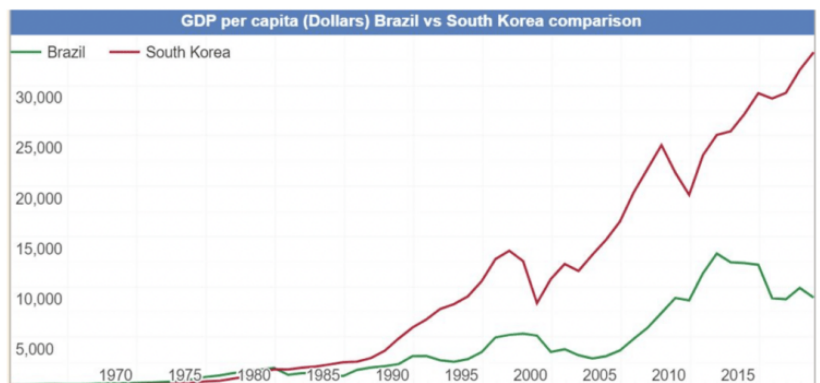
Typically, the economy of a country grows due to certain inherent factors like export competitiveness (e.g., due to low wages in a country), rich natural resource base etc. However, with time, **the competitive advantage aiding growth gets eroded** (e.g., wage levels rise). So, if the economy does not undergo structural changes, the growth may slow down (or stop altogether or even reverse) and **income levels may stagnate**.

Population stabilization is also a factor here, if population continues to grow, the per capita income may grow very slowly to make any significant impact on the income level.

Many countries in South East Asia (e.g. Thailand, Vietnam, and Malaysia etc.), Africa (e.g. South Africa) and Latin America (e.g. Brazil) currently face this phenomena. This has impeded their transition from middle income to high income. From 1960 to 2010, **only 15 out of 101 middle-income economies escaped the middle income trap**, including Japan, Singapore, and South Korea.



What factors make India susceptible to Middle Income Trap? - (1) There is **rising protectionism** across the world. Due to this, India might not be able to reap the benefits of hyper globalization that benefited China, South Korea & Japan in the last few decades; (2) In India, ~45-50% population is still dependent upon agriculture (primary sector). '**Pre-mature deindustrialization**' (tendency for manufacturing to peak at lower levels of activity and earlier in the development process) is a major concern in India. National Manufacturing Policy and Make in India initiatives have not been able to generate enough employment



Source: World Bank. Brazil and South Korea had same income level till 1980s. Since then South Korea has transitioned to a high-income economy, but Brazil has fallen into **Middle Income Trap**. Brazil's annual income growth rate fell to an average rate of 0.58% between 1997 and 2011, accompanied by **high income inequalities**.

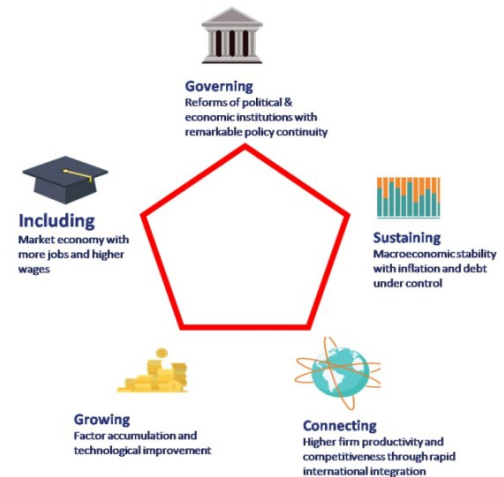
opportunities in the manufacturing sector. Failure to address this concern, will keep the population trapped in low income jobs in primary sector; (3) There is still a **lot of State Control** in place. India has not matured into a market economy. Factors like retrospective taxation, lack of stable policies have curtailed growth of private sector and impacted investments in the economy; (4) The **quality of human capital formation** is lacking. The quality of education is not at par with international standards. Around 55% of graduates are not employable as per industry standards; (5) **Climate change and weather extremities** have become a recurrent phenomenon. This is a serious threat to India where agriculture is heavily dependent on monsoons. Climate related disasters (floods, landslides etc.) will consume considerable resources.

Reasons for Middle Income Trap

- **Structural Transformation:** Economic growth is driven by factors like low wage levels (cheap labour) at low income levels and by improvement in technology and productivity (especially in the tertiary sector) at higher income levels. This structural transformation, is necessary to avoid the Middle Income Trap.
- **Lack of strong Governance framework:** For transition to high income, foreign investments and technology etc. are necessary. The State must be able provide a **stable economic policy framework, a corruption-free government, a robust institutional and judicial set-up** to attract foreign investments and technology (Ease of Doing Business). Lack of State capacity (say to protect investments) can result in economic stagnation.
- **Income Inequality:** Wealth and Income concentration within few sections of society limit upward mobility (poor continue to remain poor), prevents expansion and growth of middle class, lowers domestic demand and hence acts as drag on economic growth.
- **Economic Cycles:** Frequent and severe recessions undo the expansion achieved in the growth years. Latin-American countries faced multiple recessions and suffered from Middle Income Trap, while Japan, Taiwan, etc had 50 years of continuous growth.
- **Population Explosion:** Population growth must be stabilized to reap benefits of economic growth. If both economy and population grow at same annual rate, the per capita income remains stagnant.

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What steps can be taken to avoid the Middle Income Trap? – (1) It requires **identifying strategies** to introduce new processes and find new markets to maintain export growth; (2) It is also important to **increase domestic demand**, because an expanding middle class can use its increasing purchasing power to buy high-quality, innovative products and help drive economic growth; (3) To move from resource-driven growth (based on cheap labour/capital) to **growth based on high productivity and innovation** requires **investments in infrastructure and education**: building a high-quality education system that encourages creativity and supports breakthroughs in science and technology; (4) The Government must provide a **stable policy environment**. Additionally, there is need to **enhance capacity of institutions** to address the gaps; (5) The focus should be shifted towards **decentralized economic management**. Empowered local governments will ensure speedier decision making resulting in more inclusive growth; (6) There should be **transition from diversification to specialization in production**. Specialization allowed the middle-income Asian countries to reap economies of scale and offset the cost of disadvantages associated with higher wages (e.g. Electronics industry in South Korea). **High levels of investment in new technologies and innovation-conducive policies** are two major requirements to ensure specialized production. Developing **good social-safety nets** and **skill-retraining programs** can ease the restructuring process that accompanies specialization.



Making India a developed nation and transitioning to a high-income economy by 2047 is a big challenge. A lot of domestic and international factors make India vulnerable to falling into a Middle Income Trap. The next 25 year period will be crucial in determining whether India becomes a high-income economy or becomes another basket case of Middle Income Trap.

1. Breaking the 'Glass Ceiling': Rising Number of Women in STEM

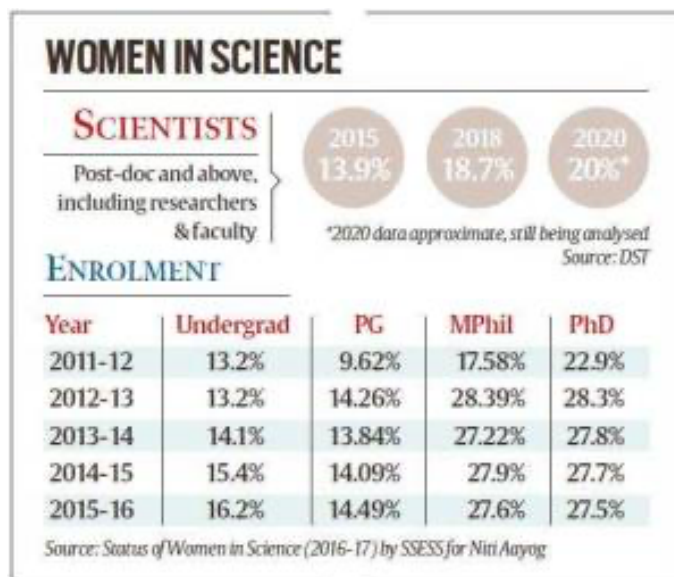
News: Data released by the Department of Science and Technology (DST) show increase in women researchers in Science and Technology fields from 13% in 2015 to 20% in 2020.

What recent developments indicate rising participation of women in STEM Fields? – The proportion of women in the Science, Technology, Engineering and Mathematics (STEM) fields has traditionally been low. However, the trend is reversing: **(1)** According to the data released by the DST, the proportion of women researchers in Science and Technology fields has risen from 13% in 2015 to 20% in 2020; **(2) Women in R&D**

Projects: Around 28% of participants in R&D projects in 2018-19 were women, up from 13% in 2000-01; **(3)** 36% of DST Scientists (35 out of 97) are women; **(4)** 11 out of 18 divisions (61%) in the DST are now headed by women, perhaps the largest percentage of women in leadership in any government department; **(5)** Dr. N Kalaiselvi has been appointed as the **first woman Director-General** of the Council of Scientific and Industrial Research (CSIR).

However, the proportion of women researchers in STEM fields is still poor relative to humanities where women constitute 36.4% of the researchers. At the global level also, Women are still an under-represented population globally in STEM. According to the UNESCO, Japan has only 16% female researchers, the US 27% and the UK 39%. The highest number of female researchers are in Tunisia, Africa (55%) followed by Argentina (53%) and New Zealand (52%).

What are the factors behind rising participation of women in STEM? – **(1)** With rising education levels and gradual change in social norms, the biases and stereotypes against women are slowly fading; **(2)** The **Science, Technology, and Innovation Policy 2020** has set target of 30% women at a post-doctoral level by 2030; **(3)** The Government has made efforts through grants on gender diversity and aligning the infrastructure for greater inclusivity. Institutions are setting up crèches so that women scientists can handle dual responsibility. Government has launched several initiatives like **GATI, KIRAN, Vigyan Jyoti** etc. to enhance presence of women in the field of sciences.



PT BOX

Glass Ceiling Effect

The term glass ceiling refers to a 'invisible barrier' that prevents certain individuals from being promoted to positions of higher responsibility (managerial) within an organization or industry. It is commonly used to describe the **difficulties faced by women** in getting roles in positions of responsibility and decision making. The barriers are in the form of 'accepted norms' and 'implicit biases' rather than part of official policy.

Women Breaking Glass Ceiling

Kamala Sohoni: Sir C.V. Raman rejected her request for pursuing research in physics under him because she was a woman. After her satyagraha, she became first woman to be admitted to the Indian Institute of Science, Bengaluru.

Bibha Chowdhuri: Professor D.M. Bose was reluctant to include her in his research group saying he did not have suitable research projects to assign to women. After a prolonged struggle, she was included. Her work on cosmic rays in determining the mass of mesons is considered legendary.

What are the challenges to further increase in the participation of women? – (1)

India continues to do poorly on gender empowerment. India has been ranked 135 in Global Gender Gap Report 2022. India does poorly on economic participation (107th); (2) The 2019 All India Survey on Higher Education shows a significant lag in female participation at doctoral levels; (3) Women scientists often have to shoulder a disproportionate burden of academic housekeeping in comparison to their male counterparts. (Refer EPIC July 2022 for Gender Pay Gap).

Women in Engineering, Science, and Technology (WEST) Initiative

- It has been launched by the Office of the Principal Scientific Adviser (PSA) to the Government of India in September 2022.
- Its aim is to empower women with a STEM background to contribute to the science, technology, and innovation ecosystem.

Key Features

- **Pursue Research:** I-STEM will provide a separate platform to scientifically inclined women researchers for pursuing research in basic/applied sciences in **frontier areas of science and engineering**.
- **Skill Development Programmes:** They will provide training for women with S&T backgrounds to brush up on their abilities and become engaged “in the field” filling crucial gaps in the R&D infrastructure.
- **Support to women S&T Startups:** The current support being provided to S&T startups by women entrepreneurs by I-STEM will be enhanced. Access to R&D facilities and R&D software platforms (like COMSOL, MATLAB, LABVIEW, AUTOCAD) will be available through the I-STEM portal.
- A digital consortium “Connect Quickly” for an online discussion and immediate support has also been established through the I-STEM WhatsApp and Telegram platforms.

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How can participation of women be enhanced further? – (1) Policies that can enhance participation of women should be adopted e.g., flexible working hours, facilitating the re-joining after maternity break etc.; (2) There is a need to promote a **gender-inclusive culture**. Issues like Gender Pay Gap must be addressed, women should be provided equal opportunities; (3) Women researchers should be provided with an environment of proper mentoring till they reach the par and gender disparities are removed; (4) Gender equality will be achieved only when there is a **change in the mindset** and institutions consider women as assets rather than simply a rectification of diversity issue.

2. Regionalism in India: Integration and Mainstreaming of North-East India

News: The Integration of North-east India into the mainstream has proved to be challenging.

How the integration of Northeast India into mainstream Indian life has been on the national agenda from Independence? – (1) The **Sixth Schedule** was introduced in the Constitution of India, for **undivided Assam's tribal belt**. It mandated the formation of Autonomous District Councils in which tribal customary laws were given legitimacy. The tribals of the Northeast were encouraged to live by their own geniuses and local customs; (2) **State Reorganization:** All the present States, Nagaland (1963), Manipur (1972), Tripura (1972), Meghalaya (1972), Arunachal Pradesh (1987) and Mizoram (1987) were granted Statehood gradually. It was done to meet the aspirations of the local people and tribals in the North-eastern region; (3) **Inclusion by accommodation:** Thereafter, the focus shifted to accommodate people, rather than requiring the latter to leave their streams to join the mainstream. For example: (a) The **North Eastern Council (NEC)** which was an advisory body composed of the State's Governors as members, was amended. It became an infrastructure planning body, Sikkim was included and the composition expanded to include Chief Ministers; (b) The **Department of North-East Region (DoNER)** was created by the Union Government in 2001, and in 2004 it was upgraded to a full-fledged Ministry; (c) India's Look East Policy was born with the stated objective of linking the Northeast with the vibrant economies of South East Asia; (d) In 2010, a protected area regime that had restricted visits to Nagaland, Manipur and Mizoram by foreigners was relaxed; (e) A judicial commission was constituted in 2004 to recommend a way to repeal or else “humanise” AFSPA.

Why has Northeast remained alien 75 years after Independence? – (1) Historical Legacy: The **British India Foreign Secretary Olaf Caroe** coined the term “**Mongolian Fringe**” in relation to the North-east region and proposed to leave this region from a Crown Colony. The **Governor of Assam, Robert Reid** said “*Northeast people had no affinity with the rest of India racially, historically, culturally, or linguistically*”. Therefore, the British dropped the Crown Colony plan on grounds of administrative feasibility; **(2) North-east people do not believe it to be part of Mainland India:** The Naga Hills refused the Sixth Schedule. They wanted nothing less than sovereignty. This resulted in a powerful insurgency in the region; **(3) The Armed Forces (Special Powers) Act (AFSPA), 1958:** The Act was promulgated and enforced in wake of the Naga insurgency. This gave sweeping powers to the armed forces. It created fear and prevented the integration; **(4) The North-eastern people are fearful of the threat of cultural and population deluge from mainstream India.** National identity questions for the Northeast people remained incompletely resolved. Therefore, insurgencies have continued to prevail in States such as Assam and Manipur.

3. CAG's Performance Audit on Conservation of Monuments

News: The CAG's Performance Audit on 'Preservation and Conservation of Monuments and Antiquities' has revealed the dismal state of heritage conservation.

What are the audit mechanisms related to heritage conservation? – (1) After 2007, there has been no internal audit of the ASI conducted by the Ministry of Culture; **(2)** The CAG reports are the most comprehensive public documents on heritage conservation; **(3)** These documents include the Report related to Museums (2011) and the CAG findings on the ASI (2013).

What are the key highlights of CAG reports on heritage conservation? – The report notes that: **(1)** There is no national policy on archaeological exploration, excavation and antiquities; **(2)** There is no database for some 58 lakh+ antiquities all over India; **(3)** The ASI budget for exploration and excavations is less than 1%. The Public Accounts Committee (PAC) has showed intention to raise the allocation; **(4)** The ASI has been unable to implement the provisions of the Monuments (AMASR) Act. A CAG inspection revealed that at Humayun's tomb, commercial construction has been undertaken in the prohibited area by an 'agency other than the ASI'; **(5)** The report highlighted the poor state of conservation at ASI-protected sites e.g., at the Buddhist stupa site of Kanaganahalli in Karnataka precious carved panels were lying scattered in the open; **(6)** The report made a scathing remark, “ASI had no strategy or road-map (long term/medium term) to fulfil its mandate”.

What are the other challenges persisting in heritage conservation? – (1) There is no synergy between the different agencies involved in heritage conservation; **(2)** The National Culture Fund (established 1996), to bring in individuals and corporate groups to fund conservation, has utilised only 14% of its funds because of the lack of coordination with the ASI; **(3) National Monuments Authority**, (statutory body for implementing heritage by-laws and site plans for each monument), has only finalised and notified 31 monuments. This is less than 0.1% of the 3,693 monuments on the list of Centrally Protected Monuments; **(4)** The Government has shown proclivity to reduce prohibited area around monuments and allow developmental activities.

4. One Water Approach

News: The UN has estimated that 4 billion people will be seriously affected by water shortages by 2050. This requires new approach towards management of water.

What is the One Water Approach? – There are fears that extreme water shortages might lead to multiple conflicts between countries over water sharing. There is a need to shift the attention from a linear water

management to a multi-dimensional integrated water management approach: **(1)** One Water Approach (also referred to as **Integrated Water Resources Management (IWRM)**) is the recognition that all water has value, regardless of its source; **(2)** It includes managing water resources in an integrated, inclusive and sustainable manner by all stakeholders including the community, business leaders, industries, farmers, conservationists, policymakers, academics and others for ecological and economic benefits; **(3)** It is an integrated planning and implementation approach to managing finite water resources for long-term resilience and reliability meeting both community and ecosystem needs.

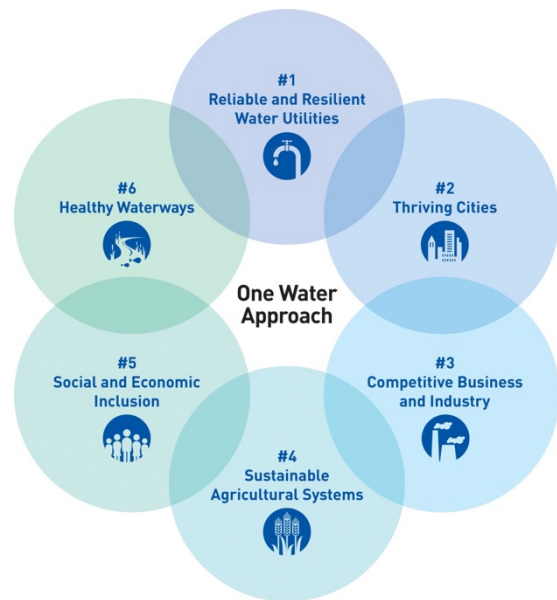
What are the objectives of One Water Approach? – The objectives include: **(1)** Reliable, secure, clean water supplies; **(2)** Aquifer recharge; **(3)** Flood protection; **(4)** Minimizing environmental pollution; **(5)** Efficient use and reuse of natural resources; **(6)** Resilience to climate; **(7)** Long-term sustainability; **(8)** Equity, affordability and accessibility to safe drinking water; **(9)** Economic growth and prosperity.

What are the characteristics of the One Water Approach? – **(1)**

All Water has Value: The mindset that all water has value — from the water resources in our ecosystems to our drinking water, wastewater and stormwater; **(2)** **A Multi-faceted Approach:** Water-related investments should provide economic, environmental, and societal returns; **(3)** **Utilizing Watershed-Scale Thinking and Action:** It should respect and respond to the natural ecosystem, geology, and hydrology of an area; **(4)** **Partnerships and Inclusion:** Real progress and achievements will only be made when all stakeholders come forward and together will take a decision.

How is One Water Approach Superior to Conventional Water Management? – **(1)** In the conventional water management approach, drinking water, wastewater and stormwater are managed separately, In ‘One Water’, all the water systems, regardless of source, are connected intentionally and managed meticulously for water, energy and resources;

(2) Water is **recycled and reused several times** in one water approach, in contrast to a one-way route from supply to use, treatment and disposal; **(3)** The water system includes green infrastructures and a mix of grey and green infrastructure that form a hybrid system instead of only grey infrastructure in conventional water management; **(4)** Active collaborations with industry, agencies, policymakers, business leaders and various stakeholders is a regular practice in the ‘One Water’ approach, whereas collaboration is need-based in conventional water management systems.



PT BOX

Grey and Green Infrastructure

Grey infrastructure refers to structures such as dams, seawalls, roads, pipes or water treatment plants.

Green infrastructure refers to **natural systems** including forests, floodplains, wetlands and soils that provide additional benefits for human well-being, such as flood protection and climate regulation.

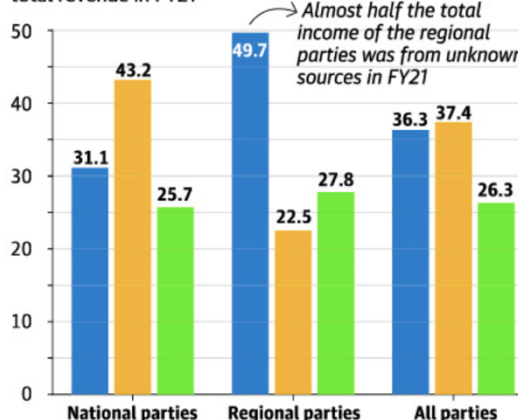
1. Issues in Electoral Funding in India

News: The data released by Association of Democratic Reforms (ADR) show that ~36% of funding received by political parties is from unknown resources. Opacity in electoral funding is considered a big factor in political corruption.

What is the meaning of Electoral Funding? – (1) Money received by the political parties and expenditure done by them in the process of election (directly or indirectly) come under the ambit of Electoral Funding. Laws governing these financial aspects are known as electoral funding/financing law; (2) Electoral financing law can be studied under three broad sub-groups: (a) Limits on political contributions and party and candidate expenditure; (b) Disclosure norms and requirements; (c) State funding of elections; (3) Electoral funding in India is broadly governed by the provisions of the: (a) The Representatives of People Act (RoPA), 1951; (b) The Conduct of Election Rules, 1961; (c) The Companies Act, 2013; (d) The Income Tax Act, 1961.

What are the findings of the ADR Report on Electoral Funding? – (1) For the FY2020-21, 8 national political parties have declared an income of INR 426.74 crore from 'unknown sources'. 27 regional parties received INR 263.928 crore income from unknown sources; (2) 31% income of national parties and ~50% income of regional parties have come from unknown resources. The report has treated unknown income as the income declared in the IT returns without giving source of income for donations below INR 20,000; (3) Overall, the combined income of national and regional political parties from unknown sources amount to 36%; (4) ADR has also scrutinized the IT Returns of the political parties and found that between FY2004-05 and 2020-21, the National Parties have collected INR 15,077.97 Crore from unknown sources.

2 Share of revenue | The graph shows the donations from unknown sources ●, donations from known sources ● and income from other known sources such as sale of assets, membership fees ● as a share of total revenue in FY21



What are the issues with Electoral Funding in India? – (1) **Lack of Transparency:** Large proportion of electoral funding comes from unknown sources. This is basic violation of transparency principles as electorate has a right to know whether the funds are being raised through legitimate means; (2) **Corruption and 'Regulatory Capture':** Activists argue that the unknown 'donors' include large corporate houses, or corrupt local businessmen who fund local political leaders. This makes the political leadership amenable to business interests. The current system tolerates **lobbying and capture**. The industry and private entities use money to ensure less stringent regulation, and the money used to finance elections eventually leads to favourable policies. According to American political activist, Lawrence Lessig, even legal (but large) campaign donations, amount to '**institutional corruption**' which **compromise the political morality** norms of a republican democracy. Instead of direct exchange of money or favours, **political candidates alter their views and convictions in a way that attracts the most funding**. This change of perception leads to an erosion of public trust, which in turn affects the quality of democratic

Sources of Income of National and Regional Parties for FY 2020-21				
Political Parties	Income from Unknown Sources (as per IT Returns) **	Income from Known Sources (donations details declared to ECI)	Income from Known Sources*	Other
National Parties	426.742	593.748	353.293	
Percentage share	31.06%	43.22%	25.72%	100%
Regional Parties	263.928	119.395	147.38	
Percentage share	49.73%	22.50%	27.77%	100%
Grand Total	690.67	713.143	500.673	
Percentage share	36.30%	37.40%	26.30%	100%

engagement; **(3) No Limit on Funding:** Earlier there was a cap on how much funds a corporate can donate to a political party out of the profits it earns. That upper limit has been removed. This has opened an avenue for corporates to increase funding to political parties and consequently increase their influence on the political system; **(4) Lack of Fairness:** Access to **large financial resources translates into electoral advantage**. Richer candidates and parties have a greater chance of winning elections. This distorts the level playing field. The Supreme Court has also supported this view in the **Kanwar Lal Gupta v Amar Nath Chawla**; **(5) Contravention of Laws:** Lack of disclosures contravenes various laws and ECI notifications. In spite of the Central Information Commission (CIC) ruling, all political parties have refused to submit themselves to the transparency that comes with Right to Information. There is widespread prevalence of black money, bribery, and corruption.

What are the issues with Electoral Bonds? – (1) Before electoral bonds were introduced, it was mandatory for political parties to make public all donations above INR 20,000. No corporate entity was allowed to make donations amounting to more than 7.5% of the average net profits of a company in the preceding 3

years. The introduction of electoral bonds has **increased the number of anonymous donors**, and the **number of shell companies** donating to political parties; **(2)** Since the identity of the donor has been kept anonymous, **it could lead to an influx of black money**. The Election Commission in April 2019 told the Supreme Court that **it did not approve of anonymous donations made to political parties**, though it was not against the Electoral Bonds Scheme; **(3)** One of the arguments for introducing electoral bonds was to allow common people to easily fund political parties of their choice, **but more than 90% of the bonds have been of the highest denomination (Rs 1 crore)**.

Electoral Bonds

- Electoral bonds were introduced through the Union budget in 2017.
- Electoral bonds are an instrument through which **anyone can donate money to political parties**.
- The bonds are sold in **multiple denominations** of INR 1,000, INR 10,000, INR 1 lakh, INR 10 lakh, and INR 1 crore, can be bought from authorised branches of the State Bank of India.
- A donor is required to pay the amount (say INR 10 lakh) via a cheque or a digital mechanism (**cash is not allowed**) to the authorised SBI branch. The donor can then give this bond (just one, if the denomination chosen is Rs 10 lakh, or 10, if the denomination is Rs 1 lakh) to the party or parties of their choice.
- The **political parties can choose to encash such bonds** within 15 days of receiving them and fund their electoral expenses.

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What should be done going ahead? – (1) The funding process should be made **completely transparent**. Absolute cap can be introduced on anonymous donations. The ADR Report has recommended that full details of all donors should be made available for public scrutiny under the RTI. This is done in countries like Bhutan, Nepal, Germany, France, Italy, Brazil, Bulgaria, the US and Japan; **(2)** There should be an upper limit on the amount that can be donated to parties (like the limit of 7.5% of profits set under Companies Act, 2013); **(3)** Electoral rules should be amended to regulate political advertisements, outline permissible categories of expenditure, prevent foreign sources of donations etc. The Law Commission of India in its 255th Report has recommended to cap the entire donation received through anonymous sources at Rs. 20 crores or 20% of the total funding of a political party; **(4)** The ADR Report has recommended that scrutiny of financial documents submitted by the political parties should be conducted annually by a body approved by CAG and ECI so as to enhance transparency and accountability of political parties with respect to their funding; **(5)** The ECI has recommended that tax exemption be awarded only to those political parties which contest and win seats in Lok Sabha/Assembly elections. The Commission has also recommended that details of all donors who donate above INR 2,000 be declared in public domain; **(6)** Violation of rules and transparency provisions should be stringently penalized. The Election Commission must be provided with

greater powers in this regard; (7) Some provisions of the Electoral Bond scheme has been questioned in the Supreme Court. The Court must adjudicate on the issue quickly and bring more clarity.

A clean, transparent electoral funding process is vital to ensure a fair electoral democracy. Most developed countries in the West have robust mechanisms to ensure transparency in their political systems. India must aspire for similar standards of transparency in the political sphere. Cleaning up electoral finance can be the first step in this regard.

2. Poor Status of Police Forces and Justice Delivery System in India

News: The data released by the National Crime Records Bureau (NCRB) in Crime in India Report, 2021 present a dismal story of justice delivery in India.

What are the issues associated with India's police forces and criminal justice system? – (1) A rise in serious crimes hasn't been accompanied by proportionate systemic upgrades. According to the Bureau of Police Research and Development, ~20% of sanctioned policing posts are vacant. The United Nations has recommended ~ 222 police personnel per lakh population. The ratio in India is ~130; (2) The **conviction rates are very poor** in murder, sexual offenses, rioting, and kidnapping e.g., the conviction rate is just 28% in rape and 42% in murder cases; (3) There is **high pendency of cases** at the level of the judiciary. More number cases come to the court than disposed-off by the courts during the year, resulting in rising pendency; (4) There are allegations of using brute force and a large trust deficit between the public and police; (5) State governments have not given due attention to police reforms suggested under SC's directives in **Prakash Singh v. Union of India (2006)** e.g., even the directive of separating investigation from law and order has not been implemented by States and Union Territories in the true spirit; (6) No State or UT has adopted the **Model Police Act**; (7) According to Prakash Singh (IPS, Former DGP), the State's police acts continue with British time provisions which have outlived their purpose e.g., the connection between the **magistrates** and the police in the system (the DySP is unable to transfer a Station House Officer (SHO) without the approval of the DM in U.P.; the performance appraisal report of an SP is still written by the DM in some States); (8) Introduction of the **police Commissionerate system** in metropolitan areas (as per the provisions of the **Criminal Procedure Code**) is always resisted; (9) **The Criminal system** is governed by the 1861 Act, which laid the foundation for an organized police force. The IPC was drafted in the aftermath of 1857 revolt. Its main objective was to use the police as a weapon of repression and strengthen the hold the British had over India. The **prevention (and detection) of crime** was never their priority.

What should be done? – (1) There should be additional funding for police reforms; (2) There is a need for improvement in soft skills and ensuring investigation in an impartial manner in order to bridge the trust deficit; (3) More offences can be **made bailable** and more brought under the ambit of **compounding** to lighten the burden on jails; (4) The Police department can establish **specialised wings** to deal with newer types of crime; (5) Police must be encouraged to use **technology** and **forensic** techniques to enhance the quality of evidence; (6) Governments must withdraw all those cases which are not serious and important at present, like covid-related cases; (7) The process of **prosecution** and **investigation** of offenses should be reformed; (8) The government must undertake efforts like a serious review of criminal codes; (9) The Directions of the Supreme Court in Prakash Singh Judgment, and the recommendations of Ribeiro Committee, Padmanabhaiah Committee, Malimath Committee etc. should be implemented in right earnest.

3. The Debate on Euthanasia

News: A Bengaluru-based woman had recently filed a petition before the Delhi High Court to stop her friend from travelling to Switzerland to undergo physician-assisted suicide. This has reignited debate on Euthanasia.

What is Euthanasia? – (1) Euthanasia is derived from the Greek words ‘eu’ (good) and ‘thanatos’ (death). Euthanasia literally means ‘good death’. The idea is that instead of condemning someone to a slow, painful, or undignified death, euthanasia would **allow the patient to experience a relatively painless ‘good death’**. The term is commonly known as ‘**mercy killing**’; (2) It is legally and medically defined as ‘an act of terminating or ending the life of an individual who suffers from an incurable disease or situation especially painful’; (3) There are different types of euthanasia practised across the world. (a) In **Active euthanasia**, a patient is killed by **active means**, for example, injecting a lethal dose of a drug; (b) **Passive euthanasia**, involves letting a patient die by **withholding artificial life support** such as a ventilator or a feeding tube.

Key Terms

- **Physician Assisted Suicide (PAS):** Sometimes called as **aid-in-dying**, it is a semi-passive method of euthanasia in which a medical practitioner prescribes or introduces the appropriate amount of lethal dose to end life at the patient’s request.
- **Permanent Vegetative State (PVS):** It is a state in which a patient is unable to sustain herself and requires the assistance of one or more **life support systems** or even other people to perform basic human functions.
- **Terminal Disease:** It refers to a medically confirmed incurable and irreversible sickness or condition that will, within reasonable medical judgement, result in death.
- **Advanced Medical Directive:** It is also known as a ‘**living will**’. It is a direction issued by a person who wishes to avoid receiving extraordinary medical care if he or she is diagnosed with a fatal illness. To be legal, such a direction must be voluntary, competent, and given in advance.

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What is the Status of Euthanasia in India? – (1) Under the IPC, both suicide (Section 309) and abetment to suicide (Section 306) are criminal offences. A person attempting suicide can be imprisoned up to 1 year. The punishment for abetment is imprisonment up to 10 years. (Section 309 has been restricted by the Mental Healthcare Act, 2017); (2) **Regulation 6.7 of the Indian Medical Council (Professional Conduct, Etiquette and Ethics) Regulations, 2002** explicitly prohibits the practice of euthanasia; (3) In March 2018, the Supreme Court passed an order that **allowed passive euthanasia** (Common Cause Judgment). The Court declared that **right to die with dignity is a fundamental right**.

What is the Global Status regarding Euthanasia? – (1) Many countries permit passive euthanasia. Only a handful of nations allow active euthanasia; (2) Switzerland is probably the most famous spot where assisted suicide is considered a legitimate way to end one’s life. Assisted suicide is legal under Swiss law; (3) In the Netherlands, euthanasia is allowed in cases where someone is experiencing unbearable suffering and there is no chance of improving; (4) Belgium, Luxembourg, Canada, New Zealand, Spain and Colombia are other countries where assisted dying is permitted for adults with serious and incurable ‘disease, illness or disability’.

What are the arguments in favour of Euthanasia? – (1) Forcing terminally ill patients to live undermines their dignity and exposes them to **pain and suffering**. Euthanasia ensures a dignified death; (2) Allowing those who are in a vegetative state to undergo euthanasia prevents them from **futile treatments** and becoming a further **financial burden** on the family; (3) The Indian Judiciary has recognized that the **right to life means more than a mere animal existence**. In such cases, withdrawal of life support is considered

valid; (4) Some experts argue that in a civilized society, people should have **full autonomy over their lives** and be able to choose when they want to die.

What are the arguments against Euthanasia? – (1) Death is **decided by fate** and a person should live her due share of life. No human has a right to take the life of another human. More religious doctors believe that PAS should not be considered since it would be against their faith; (2) It causes **‘irreparable loss’** and **‘hardship’** to one’s family members, and friends; (3) Many activists argue that legalising the practice would lead to more number of **non-voluntary euthanasia**, where the **patient’s consent isn’t known**.

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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What should be done going ahead? – (1) Passive euthanasia should strictly be done according to the guidelines of Supreme Court; (2) Suicide prevention is not just a social and public health goal in India, but also a traditional mental health practice. As a result, the time has come for mental health practitioners to take a more proactive approach to suicide prevention. In addition, the Government should initiate a national discourse on suicide prevention.

The Judiciary has made it clear that Active Euthanasia is prohibited in India. But a lenient view has been taken when it comes to passive euthanasia. The Supreme Court has recognized that a person with Persistent Vegetative State (PVS), with no scope of improvement has a right to end his life with dignity. Thus, passive euthanasia has been recognized in India as a facet of the Right to Life under Article 21 of the Indian Constitution.

4. Unfair Marketing Practices in Pharma Industry

News: The Federation of Medical and Sales Representatives Association of India (FMRAI) has accused the manufacturers of popular drug Dolo of distributing freebies worth INR 1,000 Crore to doctors to prescribe the drug Dolo-650. The incident has brought attention to the use of unfair marketing practices by Pharma companies.

What is the controversy surrounding Dolo-650? – (1) Dolo-650 is the brand name of a **fixed-dose-combination drug** that contains 650 mg of paracetamol. It is antipyretic and analgesic, (it helps decrease fever and pain) that is available over the counter; (2) The primary symptoms of COVID-19 were fever and pain. Sales of all fever medicines shot up exponentially during the pandemic. However, the sales of Dolo-650 went up by 289.6% much higher than any other drug; (3) A PIL has been filed in the Supreme Court by the Federation of Medical & Sales Representatives Association of India (FMRAI). The PIL has claimed that the manufacturer of Dolo, Micro Labs, has offered **freebies worth INR 1,000 crore to doctors to promote Dolo-650 as the ‘go-to’ anti-fever drug**; (4) The company has also been accused of tax evasion.

How Pharma companies build a nexus with doctors? – (1) Drug firms offer freebies (cash and kind) to physicians to **incentivise them to prescribe ‘their drugs’**. Drug firms offer branded souvenirs like pen stands, calendars, diaries, sanitizers etc. to doctors. The idea is to ensure **‘top-of-the-mind recall’** of their brands to the doctors while making prescription. This is common practice followed by all pharma companies; (2) Doctors are **utilized for reputation-building exercises**. For example, getting help to get their articles published in journals, or speaking at prestigious conferences. Doctors are paid some fees for attending the conference; (3) Doctors are also made lead investigators in clinical trials, or made part of committees for which they earn a hefty fee.

What are the factors that drive unfair marketing practices by pharma companies? – (1) **Information Asymmetry**: The decision of the patients is driven largely on the recommendation of the doctor. There’s a huge **information asymmetry** between the doctor and patient. Patients know little about the medicine and will consume whichever medicine is prescribed. This unequal situation gets exploited; (2) **Difficult to distinguish**: Pharma companies need to inform and update doctors about their products. But there is a **thin dividing line between legitimate promotional activities and illegitimate incentivisation**. It is difficult to distinguish the two. A pharma company executive has argued, “Around 95% of the items being gifted have a value less than INR 500. It does not constitute a bribe. It is **done to make the doctor remember a brand among the hundred others with a similar price point**”; (3) **Voluntary UCPMP**: To address this asymmetric relationship and promote ethical behaviour by Pharma companies, the **Uniform Code of Pharmaceutical Marketing Practices (UCPMP)** has been drafted the Government. It is a guidance for pharma companies on do’s and don’ts while marketing products. However, it is a **voluntary code and not binding on companies**. Critics argue that Pharma Companies lobby with the Department of Pharmaceuticals to keep the Code as voluntary.

Uniform Code of Pharmaceutical Marketing Practices (UCPMP)

- It is a **voluntary code** issued by the Department Of Pharmaceuticals relating to marketing practices for Indian Pharmaceutical Companies and medical devices industry.
- At present, the UCPMP Code is applicable to Pharmaceutical Companies, Medical Representatives, Agents of Pharmaceutical Companies such as Distributors, Wholesalers, Retailers, and Pharmaceutical Manufacturers Associations.

Key Provisions

- **No gifts, pecuniary advantages** or benefits in kind may be supplied, offered or promised, to persons qualified to prescribe or supply drugs, by a pharmaceutical company or any of its agents.
- The Code **prohibits extending travel facilities** (domestic or abroad) to Healthcare Professionals and their family members for vacation or for attending conferences. The companies should also **refrain from extending hospitality services** (like hotel accommodation) to healthcare practitioners (and family members) under any pretext.
- The Code also provides that free samples of drugs shall not be supplied to any person who is not qualified to prescribe such product.

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What are the harmful effects of unfair marketing practices? – (1) **Health-related Concerns**: Unethical drug promotion can **adversely influence doctors’ prescription attitudes**. It can **harm human health** by over-prescription and over-use of drugs, prescription of higher doses, or for longer period, and prescription of an irrational combination of drugs. During COVID-19, many doctors prescribed dolo-650 instead of the usual 500 mg tablet. Its excessive use is linked to severe liver damage. In the opioid crisis in the US, pain-management pills were prescribed by doctors across the US, their addictive and harmful after-effects were hidden or ignored. It took years for the crisis to be officially acknowledged; (2) **Financial Burden**: This causes a **severe financial stress for patients** as doctors would be inclined to prescribe a branded drug rather than the cheaper generic version; (3) **Competition**: It is **against the spirit of competition** and can jeopardize the survival of small pharma companies which lack in financial resources in comparison to the big players; (4) **Ethical Concerns**: It induces the doctor to work in the interests of the company and not the patient thereby undermining the Hippocratic oath. Further, continuance of such practices **erodes patient’s trust on doctors** and the entire medical system.

What should be the approach going ahead? – (1) FMRAI emphasises on making the UCPMP a **legally binding code of ethics**. The President of FMRAI advocates that if Pharma companies are found guilty of unethically promoting drug brands to doctors, they should **face the same penal action as is mentioned in the Indian Penal Code** for bribery and other similar unethical practices; (2) UCPMP must **mandate periodic disclosures of payments made by companies** towards doctors and professional bodies. It should be accessible to the public and include the amount, purpose of expenditure, and the party paid.

The matter of Mirco Labs is sub judice and it may be too early to say if Micro Labs indulged in unfair marketing practices. However, it is an issue that can no longer be ignored. The Government should consult all stakeholders, National Medical Commission, FMRAI, Doctors Associations and Pharma Companies etc. to establish a comprehensive framework to check such unethical practices.

5. TB-Mukt Bharat: Making India TB-Free by 2025

News: The Government has launched the TB-Mukt Bharat Abhiyan to make India TB-Free by 2025. *Jan Bhagidari* (People's Participation) will play an important role to achieve this target.

What is the PM TB-Mukt Bharat Abhiyaan? – (1) The Mission aims to bring together all community stakeholders to support those on TB treatment and accelerate the country's progress towards TB elimination; (2) Its objectives include: (a) Provide additional patient support to improve treatment outcomes of TB patients; (b) Augment **community involvement** in meeting India's commitment to end TB by 2025; (c) Leverage Corporate Social Responsibility (CSR) activities.

What are the key components of the Abhiyan? – (1) Under this initiative, **Ni-kshay Mitra** forms a vital component; (2) **Ni-kshay Mitra** are donors who can **provide various forms of support to TB-patients** undergoing treatment. The **3-pronged support** includes nutritional, additional diagnostic, and vocational support; (3) The donors could be a wide range of stakeholders from elected representatives, political parties, to corporates, NGOs, and individuals; (4) **Ni-kshay portal** can be used by the donor to adopt TB patients. The portal will also have a real-time tracker of the number of people who get adopted; (5) TB patients can be supported for a minimum duration of **1 year** and a maximum of **3 years**.

PT BOX

Ni-kshay Poshan Yojana

The Scheme provides support to Tuberculosis (TB) Patient by providing a Direct Benefit Transfer (DBT) of INR 500 per month for **nutritional needs**. This scheme has helped 62.71 lakh TB patients with financial support of INR 1,651 crore between 2018 and June 2022.

What are the expected outcomes of the initiative? – (1) The initiative will increase the **active involvement of society** in the fight against tuberculosis; (2) This activity aims at **increasing awareness** among the public regarding tuberculosis; (3) The involvement of the community in supporting the treatment cascade shall also help in the reduction of stigma; (4) Provision of additional support to the TB patient shall also result in the **reduction of the out-of-pocket expenditure** for the family of the TB patient.

What kind of support do patients need? – TB patients need three kinds of essential supports: (1) Appropriate food and supplements to take care of patient's nutritional needs; (2) Support for additional lab-based diagnostic requirements; (3) Support is needed to provide patients with vocational skills which will help them to join the workforce and live a prosperous and productive life.

GoI also provide free diagnosis, free medicines and other kinds of support to people who have been affected by the disease.

What role is the played by Jan Bhagadari? – Jan Bhagidari (people's participation) plays an important role in achieving any target. **Swachh Bharat Mission** and **Covid vaccination drive** campaign are successful examples of *Jan Bhagaidari*. Collective strength and people's participation is needed to move towards a TB-free India by 2025.

6. Issues in Sports Governance in India

News: All-India Football Federation (AIFF) was recently suspended by FIFA. Most Sports Administration bodies continue to be headed by politicians (or their kin). The Judiciary has tried to push reforms.

What are the Judiciary-driven reforms in governance of Sports Bodies? – Much of the recent reform action in **Indian sports administration bodies** has been driven by the Judiciary: (1) In 2016, the Supreme Court passed a landmark ruling that led to changes in the BCCI constitution. The changes were recommended by the **Justice R M Lodha Committee** for BCCI reforms; (2) Like in cricket, the SC-handpicked **Committee of Administrators** (CoA) are in-charge of all major sports in the country; (3) The Judiciary and the **CoA in-charge of Football** are of the view that the 50% of the AIFF executive committee should comprise 'eminent players' as co-opted members. The global football body FIFA had interpreted it as undue third-party interference and suspended the AIFF. The suspension was later revoked after the mandate of the CoA (set up to assume the powers of the AIFF Executive Committee) was terminated.

What is the legal regime for governance of sports in India? – (1) The **National Sports Development Code, 2011**, (commonly called **Sports Code**) governs sports in India; (2) The Code assembles dozens of government notifications issued over a few decades. Its **administrative directions** are binding on the sporting bodies and federations; (3) It provides the **minimum standards** that a sports body must comply with to retain the sports ministry's annual recognition.

What are the issues in sports governance in India? – Governance of India's national sports federations are not at par with the international standards: (1) Most sports bodies (at the State and Union level) are **governed by a number of interest groups**, with active support of ruling political parties; (2) The governing bodies have little or no representation of existing or former athletes; (3) The decision making in these bodies is driven more by **personal or political interests**. The interests of the sport or the athletes takes a backstage; (4) In many cases, elections are not held regularly for the election of Chairpersons/Heads of the sports bodies; (5) The sportspersons have little involvement in administrative affairs. They have little experience in governance of sports. So necessarily appointing sportspersons as Heads/Chairpersons of governing bodies may not translate effective governance; (6) Even the judicially-driven reforms are not being implemented. The BCCI has plead there are practical difficulties in implementing the Lodha Committee recommendations.

What is the norms of International Olympic Committee? – (1) The **Olympic Charter** has a provision for the election of **athlete representatives** as members of the **National Olympic Committee** and their boards; (2) This involves the creation of recognised **athlete membership bodies** that include both active and recently-retired athletes; (3) They have the **right to vote** their representatives into membership and federation posts; (4) The Olympic Charter sets a minimum of two athletes as members and one as an executive committee member of the National Olympic Committee (that is, the IOA) but has no upper limit for either.

Although the Judiciary has proposed reforms, it is believed that the judiciary is not the ideal arbiter of sports governance standards.

What are the suggestions to improve sports governance? – (1) Many experts contend that sportspersons should be given more powerful voice in sports administration; (2) The **autonomy of sports federations** is a vital pillar of the sports governance. This will enable sports bodies to act independently through their own democratic structures, free from governmental and external influence; (3) Reforms must be taken from **the bottom of the pyramid, i.e.,** to reconstitute **district and state bodies** that feed into the national sports governance pyramid. The Indian Olympic Association (IOA) judgment held that **the provisions of the Sports Code** are also applicable right down the sports pyramid; (4) The focus of reform efforts must be on training sports governors and administrators, both athletes and non-athletes; (5) There must be **athlete commissions** and **athlete representation** in every district, state and national sports body. Further, these bodies must be embedded in decision-making in reasonable numbers.

7. National List of Essential Medicines and Drug Pricing in India

News: The Union Ministry of Health has released the new National List of Essential Medicines (NLEM).

What is the National List of Essential Medicines (NLEM)? – (1) NLEM was launched in 1996 in India, along the lines of the World Health Organisation's (WHO) Essential List of Medicines (ELM); (2) According to the World Health Organization (WHO), essential medicines **satisfy the priority health care needs of a population**. The list of essential medicines is made with due regard to: (a) Disease prevalence; (b) Public health relevance; (c) Evidence of efficacy and safety; (d) Comparative cost-effectiveness; (3) They are intended to be available in the health systems at **all times, in appropriate dosage forms, of assured quality** and at **affordable prices**; (4) The WHO issues list of essential medicines every two years, which is used by countries to develop their own national lists. It contains medicines required at the primary, secondary and tertiary healthcare levels; (5) The NLEM is one of the **key instruments in balanced healthcare delivery system** of a country; (6) India's NLEM has been modified in 2003, 2011, 2015 and now in 2022; (7) The new NLEM (2022) has added 34 new medicines and dropped 26 old ones from the previous list (2015). A total of 384 medicines feature on NLEM 2022 under 27 therapeutic categories; (8) Drugs listed under NLEM are known as **scheduled drugs**. They are cheaper because the **National Pharmaceutical Pricing Authority (NPPA) caps medicine prices** and changes only based on wholesale price index-based inflation.

How are the prices of drugs controlled in India? – Legal Basis: Prices of essential drugs are regulated by the Union Government under the **Essential Commodities Act, 1955**. The **Drug Price Control Order (DPCO)** is issued under Section 3 of the ECA, 1955 to regulate the prices of drugs. The Order provides: (a) The list of price controlled drugs; (b) Procedures for fixation of prices of drugs; (c) Method of implementation of prices fixed by Govt.; (d) Penalties for contravention of provisions etc.; (2) **Implementation:** The powers to implement the DPCO are vested with the **National Pharmaceutical Pricing Authority (NPPA)**. The medicines listed in the NLEM are sold below a **price ceiling** fixed by the NPPA; (3) **Fixing of Prices:** The ceiling price of a scheduled drug is determined on the basis of simple average of price-to-retailer (PTR) of all branded-generic and generic versions of that particular drug formulation having a **minimum market share of 1%**. A notional retailer margin of 16% is added to it. The manufacturer of a non-scheduled drugs (drugs not under direct price control) is not required to take price approvals from NPPA. However, the NPPA is required to monitor the prices of such drugs and take corrective measures if required. Scheduled drugs roughly constitute 17-18% of the estimated INR 1.6-trillion domestic Pharma market.

What are the benefits of controlling drug pricing? – (1) It ensures the accessibility, affordability, and safety of some of the most essential drugs; (2) It helps in optimum utilisation of healthcare resources and budget, drug procurement policies, health insurance, improving prescribing habits, medical education and training and drafting pharmaceutical policies; (3) A study by Public Health Foundation of India, noted that more than 55 million Indians are pushed into poverty every year due to **out-of-pocket (OOP) healthcare expenses**. The Government spends less than 1.3% of the GDP on healthcare. The OOP expenditure on healthcare is 80% in Bihar and 50% in Gujarat. The world average is 18.6%. Capping prices of essential drugs mitigates the impact of OOP expenditure to an extent; (4) High drug prices negatively impact health-seeking behaviour, leading to higher morbidity. Controlling drug prices helps to reduce this.

National Pharmaceutical Pricing Authority (NPPA)

- The National Pharmaceutical Pricing Authority (NPPA) was established in August 1997.
- It comes under the control of Department of Pharmaceuticals, under the **Ministry of Chemicals and Fertilizers**.
- The NPPA has been entrusted with the task of:
 - **Fixation/revision of prices** of pharmaceutical products (bulk drugs and formulations).
 - **Enforcement** of provisions of the **Drugs Prices Control Order (DPCO)**.
 - **Monitoring of the prices** of controlled and decontrolled drugs in the country.

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What are the issues in controlling drug pricing in India? – (1) **Affordability**: The OOP expenditure on healthcare remains high despite favourable policies. In terms of their relative per capita income, Indian consumers pay more than people in high-income countries. Accessibility and affordability still remain critical challenges in India's healthcare system; (2) **Limited Coverage**: Only ~18% of drugs in the market are under price controls; (3) **Quality Issues**: Many pharmaceutical companies have opted to go out of production because their profit margins decreased. This has led to **substandard and spurious drug manufacturers dominating the pharma market**. In the absence of strict quality regulations, there has been a trade-off between price and quality. A report by the United States Trade Representative claims that **20% of drugs in India are fake**; (4) **Low Spending on R&D**: Decrease in profit margins of quality manufacturers has led to a reduction in spending on R&D. It has deterred future investments in the pharmaceutical sector and also diluting the Intellectual Property (IP) rights; (5) **Fall in sales**: Many **manufacturers have migrated to non-essential drugs** (80% of the drugs in non-essential list) or stopped promoting essential drugs. The sale fell for drugs with capped prices, and rose for drugs that didn't have a price ceiling; (6) **Alternate Drugs**: Some pharma companies have started promoting different drug categories: non-NLEM, FDCs (not on NLEM) and non-standard dosages (for instance, doctors routinely prescribe splitting of medicines). An information asymmetry between the buyer and the seller has created a breeding ground for **mis-selling** and **misinformation** (adding or changing of ingredients) in India's pharma industry; (7) **Rise in Imports**: The policy has also forced manufacturers to import Active Pharmaceutical Ingredients (API) and bulk drugs from China to reduce their input costs. It has **negatively impacted India's indigenous drug manufacturing industries**. About two-third of APIs are imported from China. Any threat from China has the potential to impact the manufacturing of critical drugs in India.

What should be the approach going ahead? – (1) The price control mechanism being set up by the government needs to be tweaked to ensure accessibility and affordability in a real sense. Some experts suggest **Trade Margin Rationalization (TMR) instead of price ceiling**. The Government can rationalize the trade margins of all stakeholders in the drug supply chain (from stockist to the retailer). This will have similar effect on regulation of prices of medicines and devices; (2) There is need to educate healthcare professionals and doctors against using several fixed-dose combinations (FDCs) of antibiotics. This has also been highlighted by the Standing National Committee on Medicines (SNCM); (3) Instead of price controls, other mechanisms can be explored like: (a) **Bulk procurement** of generic drugs by public institutions for distribution; (b) **An increase in public spending** on healthcare; (c) Promoting competition among manufacturers; (d) Strictly regulating the quality of

drugs; (e) **Tackling information asymmetry** by promoting transparency. This will be helpful in delivering better outcomes for India's pharmaceutical industry

Medicines are a fundamental part of health care and a well-controlled functional pharmaceutical sector is a pre-requisite for universal health coverage. Addressing the concerns and proper implementation of NLEM is vital to achieve the targets of Sustainable Development Goals by 2030.

8. Shanghai Cooperation Organization (SCO)

News: The 22nd Summit of the Shanghai Cooperation Organization concluded recently in Samarkand, Uzbekistan. The member nations signed the Samarkand Declaration. India will assume the Presidency of the SCO next year (2023) and hold the Summit.

What has been the origin of the SCO? - (1) The **Shanghai Cooperation Organisation (SCO)** was formed in June 2001; (2) It had its origins in **Shanghai Five** that was established in 1996. Shanghai Five, having China, Kazakhstan, Kyrgyzstan, Russia and Tajikistan as members, had emerged from a series of border demarcation and demilitarization talks which the 4 former Soviet republics held with China to ensure stability along the borders; (3) In 2001, Uzbekistan also joined and the group was rechristened as the Shanghai Cooperation Organisation; (4) The SCO has 8 members as of September 2022. These are, **India, China, Russia, Kazakhstan, Pakistan, Uzbekistan, Tajikistan, and Kyrgyzstan**. India and Pakistan had joined in 2017. Iran will join as full member in 2023; (5) Afghanistan, Belarus, Iran and Mongolia have the **status of Observers**; (6) Armenia, Azerbaijan, Cambodia, Egypt, Nepal, Qatar, Saudi Arabia, Sri Lanka and Turkey are **dialogue partners**; (7) Members of the SCO account for **~40% of the world's population** and **~30% of Global Gross Domestic Product (GDP)**.



What is the significance of the SCO? - (1) **Connectivity and Trade:** There is considerable **potential in trade and connectivity** across the region. Central Asian Region is rich in oil and gas which India needs for energy security. The region is a market for Indian goods and investments. The Samarkand Declaration **centralises connectivity** which is a priority for India's energy and food security; (2) **Security:** SCO has a key security dimension as well. The main focus of the SCO is on threats like terrorism, separatism and extremism. According to a report, the SCO had foiled 600 terror plots and extradited 500 terrorists through RATS till 2017. Under the RATS (Regional Anti-Terrorism Structure), it has been proposed to create a **unified register of terrorist and extremist organizations** whose activities will be prohibited on the territories of the SCO member countries. SCO members also held a joint anti-terror exercise in 2021; (3) Over the past few years, the organisation's activities have expanded to include increased military cooperation and intelligence sharing.

What are the challenges with the SCO? – (1) Internal Struggles: Bilateral Relationships of many SCO members are strained: **(a)** Recent clashes on Kyrgyzstan and Tajikistan border has led to deaths of more than 100 people; **(b)** The relationship of India and China is also at a historic low due to the border dispute and increasing Chinese presence in India's neighbourhood; **(c)** Russia is wary of growing Chinese presence in Central Asia. Russia considers Central Asia as its own backyard (former Soviet Republics). Russia still retains the military lead in the region through the CSTO (Collective Security Treaty Organisation), but China might soon displace Russia as security provider subsequent to the greater economic integration with the region; **(2) Connectivity:** The connectivity has remained poor, especially between India and the other SCO members. Pakistan has blocked all efforts to enhance connectivity with India. China has benefited the most, as all Central Asian nations have joined the Belt Road Initiative; **(3) Terrorism:** India has long held Pakistan as a State sponsor of terrorism. The presence of Pakistan, which is under grey list of FATF, severely limits the ability of the SCO to cooperate on the counter-terrorism front. The role of China is also dubious have repeatedly blocked the resolutions of India/US to blacklist Pakistan-based terrorists.

Structure and Functioning of the SCO

- The SCO has political economic and security dimensions.
- The Organisation has **two permanent bodies**: the **Secretariat** in Beijing (China) and the **Regional Anti-Terrorist Structure (RATS)** in Tashkent (Uzbekistan).
- The **Heads of State Council (HSC)** is the highest decision-making body in the SCO. It meets once every year to take decisions and give instructions on all important issues regarding SCO activity.
- The **Heads of Government Council (HGC)** meets once per year to: **(a)** Discuss a strategy for multilateral cooperation and priority directions within the Organisation's framework; **(b)** Solve important and pressing cooperation issues in economic and other areas; **(c)** Adopt the Organisation's annual budget.
- There are also mechanisms of **meetings on the level of Secretaries** of Security Councils, Foreign Ministers, Ministers of Defence, Emergency Relief, Economy, Transportation, Culture, Education, Healthcare, Heads of Law Enforcement Agencies, Speakers of Parliament, Supreme Courts etc.
- **Russian and Chinese** are the **official and working languages** of the SCO. India is pushing for use of English as working language.

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What is the importance of SCO to India? – (1) Relationship with Central Asia: The SCO provides a platform to India to strengthen its relationship with Central Asian nations. The region is rich in **energy and mineral resources** (including rare earth elements) which are critical to India's economic growth and **transition to clean energy technologies**; **(2) Relationship with Russia:** India continues to have high dependence on Russia for its energy and defence needs. India sees Russia as a balance to China. Russia, wary of Chinese presence in Central Asia, wants to prop-up India to keep check on China; **(3) Regional Security and Stability:** India sees partnership with SCO nations as a crucial factor in regional stability e.g., India held NSA-level meetings with SCO Members (excluding China, Pakistan) along with Iran and Turkmenistan for Regional Security Dialogue on Afghanistan in November 2021. Central Asian Nations can support India in counter-terrorism despite limited response from China and Pakistan.

What steps can be taken to increase the relevance of SCO for India? – (1) The lack of adequate connectivity with the Central Asian Republics (CARs) has been a major constraint for India. It is necessary to conceive creative measures that enable Indian corporates to expand its footprint in the region's markets. With Iran joining in 2023, India must leverage its relationship and existing projects (Chabahar) to increase its presence in the region; **(2)** Pakistan has to be persuaded to **open land corridors** which are the cheapest and shortest route. For Central Asian nations, **India is a lucrative market as well as a potential investment partner**. Rising Chinese debt and experience with BRI projects elsewhere have made them to have second thoughts on Chinese investments; **(3)** India should push for more bilateral trade and settlement in national currencies to reduce dependence on US Dollar and reduce price volatility; **(4)** There is need to give more focus on

humanitarian ties. Member States are working fruitfully in the field of education, health, culture, tourism and youth contacts and the cooperation should be enhanced further..

SCO is a platform which serve India's regional interests. The organization has great potential to create a multi-polar, multi-aligned global order. India should enhance its active engagement with the Central Asian Nations to secure its geopolitical interests as well as counter Chinese influence in the region.

9. India Walks out of Trade Pillar of IPEF

News: India has decided to stay away from the trade pillar of the IPEF.

What are the features of IPEF when compared with mega regional trade agreements? – (1) It is not an alternative to RCEP and **Comprehensive and Progressive Trans-Pacific Partnership (CPTPP)**. IPEF has a trade pillar but it is not a trade agreement; (2) Trans-Pacific Partnership (TPP) was an economic instrument as part of the USA's '**Pivot to Asia**' strategy for containing China. Its **WTO++** provisions related to IPR, state-owned enterprises was to establish a rule-based world order that would have been difficult for China to abide by. CPTPP is a watered-down version of TPP with relaxed provisions related to investment, labor, and environmental standards to make it for China easier to seek its membership; (3) Membership of both RCEP and CPTPP will give China a dominant position in rule setting. This is the reason behind IPEF gaining salience by excluding China.

Four Pillars of IPEF

- **Trade:** It will include digital economy and emerging technologies, labour commitments, environment, trade facilitation, transparency, good regulatory practices, corporate accountability, standards on cross-border data flows and data localisations.
- **Supply Chain Resilience:** Its purpose is to develop 'a first-of-its-kind supply chain agreement' that would **anticipate and prevent disruptions**.
- **Clean Energy and Decarbonization:** It will include agreements on 'high-ambition commitments' such as renewable energy targets, carbon removal purchasing commitments, energy efficiency standards, and new measures to combat methane emissions.
- **Tax and Anti-Corruption:** It includes commitments to enact and enforce 'effective tax, anti-money laundering, anti-bribery schemes in line with [American] values'

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What are the opportunities provided by IPEF? – (1) It has nine members from East Asia and its two pillars are focused on **trade and connectivity** and **supply chain resilience**. It provides an opportunity to integrate with East Asian value chain hubs; (2) In the post-pandemic era and in the wake of the **Ukraine crisis**, large corporations are seeking China plus one relocation strategy. IPEF will facilitate this relocation; (3) **ASEAN** is also looking for **supply chain resilience** through bilateral FTAs and diversification beyond RCEP; (4) It provides a flexible framework to seek remedial action against **non-tariff barriers** in the context of the **ASEAN-India FTA**.

Why has India decided to stay away from trade pillar of IPEF? – (1) IPEF has 4 pillars. The 14 members are not obligated to join all the four pillars; (2) The Government has argued that there is lack of clear guidelines and commitments in the areas of labour, environment, digital trade and public procurement; (3) The terms of the agreements and the benefits that the member countries will get, are also not clear.

What are the issues associated with India's decision? – (1) India is not a member of any mega trade agreement yet. IPEF provided an opportunity for India to build trade partnerships with countries in the region along with the US; (2) It is possible that India will not be benefitted from supply chain pillar of the IPEF because trade and supply chains are interconnected and interdependent; (3) It will also send a message that India has joined QUAD with a narrow focus on geopolitical security and it is not open for broader economic partnership in the region; (4) It will be difficult for India to stand as an alternative to China in the Indo-Pacific region; (5) The trade conditions of IPEF are making India uncomfortable. However, these conditions might become a part of bilateral trade negotiations with advanced economies; (6) India's decision has come at a time of an uncertain global

economic environment. The global trade is already slowing down amid tightening monetary policy of several countries. Growth rate of India's exports has slowed down.

What should be course of actions for India? – If India has to become part of the global value chain it should be ready to negotiate and accept the terms of those trading groups. India's decision to walk out of the Regional Comprehensive Economic Partnership (RCEP) and now from the IPEF trade component affects its position in bilateral trade talks as well. The emphasis of the Government is on bilateral FTAs. However, some experts suggest India must not abandon multilateral agreements completely. (Refer EPIC June 2022 for IPEF).

10. India Japan Relationship

News: The 2+2 Ministerial Meeting between Defence and External Affairs Ministers of India and Japan was held in Tokyo, Japan. Both nations affirmed their commitment to a rules-based global order.

How has the India Japan Relationship evolved? – (1) India-Japan exchange is said to have begun in the 6th century when Buddhism was introduced to Japan. Throughout the various phases of history, India and Japan have never been adversaries; (2) After World War II, India and Japan signed a **peace treaty** and **established diplomatic relations in April, 1952**; (3) India Japan relationship became particularly strong since the beginning of India's "Look East" policy in the 1990s. Japan was among the few countries that bailed India out of the balance of payment crisis; (4) The relationship was elevated to '**Global and Strategic Partnership**' in 2006. Strong bilateral trade and aid relations have expanded toward **security-based relations**; (5) The relationship was further elevated to '**Special Strategic and Global Partnership**' in September 2014; (6) Both India and Japan are looking to increase their presence in the Indo-Pacific, alongside the United States. Concerns regarding China's intentions in the region have led to strengthened trilateral cooperation.

What is the current status of India Japan Relationship? – (1) **Strategic and Defence Cooperation:** (a) The **Joint Declaration on Security Cooperation** between India and Japan was issued in October 2008. There are also various frameworks of security and defense dialogue including the Foreign and Defense Ministerial Meeting ('2+2' meeting), annual Defense Ministerial Dialogue etc.; (b) In September 2020, Agreement concerning **Reciprocal Provision of Supplies and Services (RPSS)**/'**Acquisition and Cross-Servicing Agreement**' or **ACSA**) was signed. It enables **mutual logistics support**, between armed forces; (c) Indian and Japanese forces regularly hold joint exercises like **Shinyuu Maitri** (Air Force), **Dharma Guardian** (Army), **JIMEX** (Navy), **Sahyog-Kaijin** (Coast Guard) and **Malabar** (Navy, multilateral); (d) Both India and Japan support each other's candidature for permanent membership in UN Security Council's expansion. Japan supported India's inclusion to Missile Technology Control Regime and India joined the group in 2016; (2) **Trade:** (a) India and Japan signed Comprehensive Economic Partnership Agreement in 2011; (b) India Japan **bilateral trade stood at US\$ 13.7 billion in 2020**, with Indian exports worth US\$ 4.3 billion and imports worth US\$ 9.4 billion; (3) **Investments and Development Assistance:** (a) Between 2000-2019, Japan has invested ~US\$ 32 billion in India. It now ranks 3rd among major investors in India; (b) Japan is the **largest bilateral donor for India** through Japanese ODA (Overseas Development Assistance). Several high-profile infrastructure projects like the **Mumbai-Ahmedabad High Speed Rail**, the **Western Dedicated Freight Corridor (DFC)**, the **Delhi-Mumbai Industrial Corridor** with 12 industrial townships, the **Chennai-Bengaluru Industrial Corridor (CBIC)** are being supported by Japanese assistance; (4) **Digital Partnerships and Start-ups:** (a) '**India-Japan Digital Partnership**' (I-JDP) was launched in October 2018; (b) In May 2018, both countries signed the Joint Statement on **Japan-India Start-up Initiative** setting up the first Start-up Hub in Bangalore; (c) Indian start-ups have raised more than US\$ 10 billion from Japanese Venture Capitalists; (5) **Science and Technology:** (a) The bilateral **Science & Technology Cooperation Agreement** was signed in 1985 and it underpins the bilateral S&T cooperation; (b) The **India-Japan Science**

Council (IJSC) was established in 1993. It has so far supported 250 joint projects; **(c) The India-Japan Agreement for Cooperation in the Peaceful Uses of Nuclear Energy** came into force in 2017; **(d)** Quad has established a critical and emerging technology working group, focused on technology principles, standards development, telecommunications, monitoring of technology trends, and critical technology supply chains; **(6) Skill Development:** An MoC was signed in 2016 to train 30,000 shop floor leaders. Japanese companies have established 12 **Japan India Institute of Manufacturing (JIM)** in India and 4 Japanese Endowed Courses (JEC) in Indian Engineering Colleges. An MoC has also been signed on **Technical Intern Training Programme (TITP)**.

Other Areas of India-Japan Cooperation

- **Healthcare:** In view of the similarities between the goals and objectives India's AYUSHMAN Bharat Programme and Japan's AHWIN, both sides had been consulting each other to identify projects for collaboration. Both sides have concluded a MoC to formalize cooperation in the field of Healthcare.
- **Act East Forum:** It was established in 2017 and aims to provide a platform for India-Japan collaboration under the rubric of India's 'Act East Policy' and Japan's 'Free and Open Indo-Pacific Vision'. The objective is to coordinate developmental projects in North-East India in areas of connectivity, forest management, disaster risk reduction and capacity building.
- **Supply Chain Resilience Initiative (SCRI):** The Trade and Economy Ministers of India, Japan and Australia launched the (SCRI) in April 2021. The initiative seeks to **enhance the resilience of supply chains** in the Indo-Pacific Region and to develop dependable sources of supply and to attract investment.
- **Disaster Risk Reduction:** India and Japan signed an MoC in the field of Disaster Risk Reduction in 2017. India and Japan have jointly organized a series of workshops to exchange information on policy and measures on disaster risk reduction.

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What are the issues limiting India Japan Relationship? – (1) Japan has a strained relationship with Russia. India continues to pursue its strategy of 'multi-alignment' and 'strategic autonomy', balancing relations between the West and Russia. Japan objected to holding of **Vostok-2022** exercises near **Kuril Islands**. India has participated in Vostok exercises; **(2)** The trade between India and Japan is limited and far below potential. Japan barely makes to India's top 15 trading partners. India-Japan bilateral trade is less than 20% of India-China trade; **(3)** On multiple global issues (especially issues related to developing vs developed nations gap) like trade related aspects at the WTO, India and Japan end up on opposite sides; **(4)** The outcomes of Asia-Africa Growth corridor have been limited. Japanese companies face considerable logistics challenges in their projects in India.

What steps can be taken to further deepen India Japan Relationship? – (1) Bottlenecks hampering bilateral trade should be removed. As of now India-Japan trade is ~5% of Japan-China trade; **(2)** Despite their differences on Ukraine issue, India and Japan must work together and effectively promote peace in the region. This will require continued exchanges, clear communication, skilful diplomacy and unwavering political will with a dedicated focus on building trust; **(3)** Both Indian and Japan can work on strengthening industrial competitiveness which would also help building supply chain resilience. Japan can support India's quest to become a global semi-conductor chip manufacturing hub; **(4)** Japan should look at more ways to accept skilled workers from India; **(5)** There is a need to expand the partnership in the domain of Science and Technology like establishing a safe and reliable 5G network, building better space technology, renewable energy and green energy solutions (like green hydrogen), blockchain, Artificial Intelligence/Machine Learning (AI/ML) technologies; **(6)** The cooperation in the field of infrastructure can be extended to India's Northeast region and support development of India's connectivity projects with the South East Asia. They should also work on building greater interconnectivity among ports in India, Japan and other friendly countries in the Indo-Pacific region.

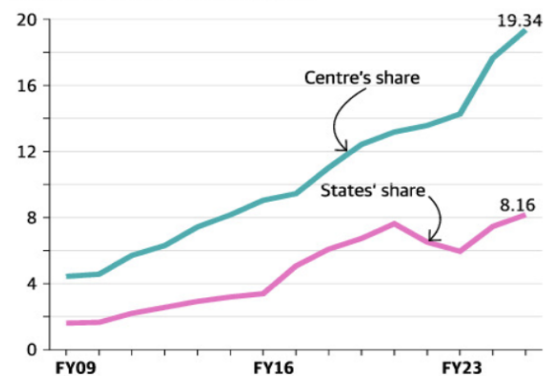
Both India and Japan are great democracies and aim at a value-based order. India and Japan share a global vision of peace, stability and prosperity, based on sustainable development. They also share commitment to human rights, pluralism, open society, and the rule of law underpin the partnership between the two countries. Deepening of India Japan relationship is not only important for both, but also for the Indo-Pacific region and will encourage peace, prosperity and stability for the world.

1. Fiscal Centralization in India

News: In a meeting of the Governing Council of NITI Aayog, Chief Ministers expressed their concern about the fiscal centralization and dwindling State revenues. They sought a higher share in the divisible pool of taxes and an extension of GST Compensation.

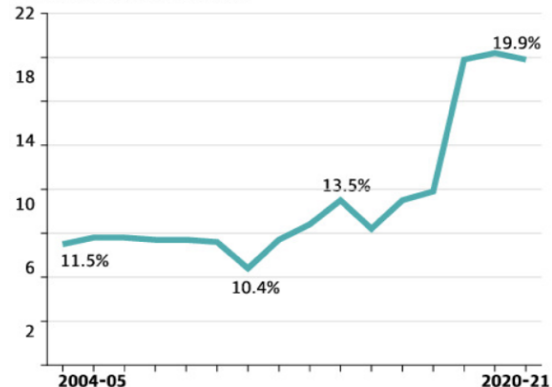
What is the reason for the poor financial health of States? – (1) Slowdown in growth in 2019-20 due to pandemic; (2) Fiscal implication of implementation of the Ujwal DISCOM Assurance Yojana; (3) Populist schemes like free electricity, providing farm loan waivers; (4) Heightened health and other expenses during the pandemic; (5) Revenue shortfall due to the reduction in gross tax revenues of States during the COVID pandemic and the States' share of the Union government's taxes recorded a steep fall of 15% and 9% in FY20 and FY21, respectively. (Refer EPIC July 2022 for The State of State Government Finances).

The chart shows the States' and Union government's share of gross tax revenue in ₹ lakh crore. States' share of Centre's taxes recorded a steep fall in FY20 and FY21. But, the Union government's share continued to rise

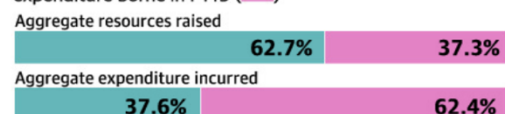


What are the trends of centralization in Union-State Finances? – (1) The Union Government has increased its revenue by levying cesses and surcharges which are not shareable with the States. For instance, their contribution raised from 10.4% in FY12 to 20% by FY21. This has also shrunk the divisible pool of resources; (2) The share of Union Government in revenues raised is ~63% while its share in aggregate expenditure is only ~38%; (3) Various cesses and charges are imposed by the Union Government to raise resources. They are transferred to Reserve Funds to ensure that they are being used for the intended purpose. But according to the CAG report, this has not happened. For instance, between FY10 and FY20, INR 1.28 lakh crore was collected as a cess on crude oil. However, it hasn't been transferred to the Oil Industry Development Board (OIDB).

The chart shows the share of cesses and surcharges in gross tax revenue. From 10.4% in FY12, their share climbed up to 20% by FY21, suggesting an excessive reliance by the Centre on these instruments to raise revenue



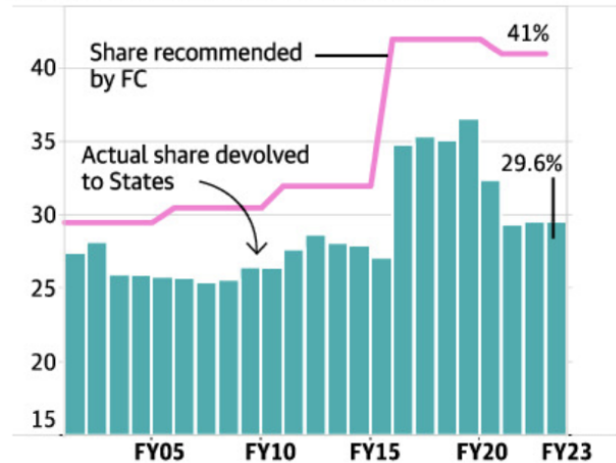
The chart shows the Union government's (blue) and States' share in total resources raised and total expenditure borne in FY19 (orange)



What is the role of the Finance Commission? – The Constitution grants more powers to the Union Government to raise revenue, while the States are tasked to undertake most of the development and welfare-related responsibilities. Such allocation of taxation powers and expenditure responsibilities results in an imbalance. **The role of the Finance Commission is to correct the imbalance.** The Constitution provides for sharing of the Union Government's revenue with the States. Successive Finance Commissions have attempted to reduce the imbalance by increasing the States' share in Central taxes.

How did the centralization in fiscal space happened? – The Planning Commission and Finance Commission had remained the cardinal pillars of Centre–State Fiscal relations for long. According to a Rajya Sabha MP, the relationship has been gradual centralized; **(1) Non-adherence to recommendations of the Finance Commission recommendations:** The last two successive Finance Commissions pegged the share of states in gross taxes to over 40%. But the actual transfer has been lower, the peak was 36.6% in FY19 and has fallen to 29% subsequently; **(2) Implementing Goods and Services Tax (GST):** The GST has increased the dependence of the States on the Centre for revenue; **(3) Abolition of Planning commission:** The Commission was disbanded to make way for the NITI Aayog. The powers of allocation of resources to States has been passed on to the Ministry of Finance. Under the Planning Commission, the Gadgil formula was used to allocate funds to states. However, after 2015, transfers to States are determined based not on any formula but purely on political exigencies; **(4) States as agents of implementing Central schemes:** Centrally Sponsored Schemes encroach on the right of the States to undertake welfare measures.

The chart shows the States' share in the divisible pool of taxes mandated by the Finance Commission and the actual share devolved to the States (figures in %)



The table lists the issues flagged by the Comptroller and Auditor General with respect to cesses and levies

Year of audit	Issue
FY20	In FY20, cesses worth ₹78,376 crore – about 40% of the cesses – were not transferred to the reserve funds for which they were levied
FY20	During FY10 and FY20, nearly ₹1.28 lakh crore was collected through cess on crude oil but no funds were transferred to Oil Industry Development Board. The funds were retained in the Consolidated Fund of India and there is no assurance if they were used for the intended purpose
FY19	In FY19, cesses worth ₹1.1 lakh crore or 40% of the cesses were not transferred to the Reserve Funds and were retained by the CFI
FY19	₹8,871.19 crore were collected from Social Welfare Surcharge on customs. However, no dedicated fund was created to ensure that amount was spent for the intended purpose
FY19	₹414.51 crore were collected from abolished cesses (cesses subsumed under the Goods and Services Tax) and deposited in the Consolidated Fund of India

What should be done? – **(1)** In terms of spending, **reforms** are needed at both Union and State levels of the Government; **(2)** The **division of resources** should be done more transparently; **(3)** There is a need for greater coordination among the Union and State Governments regarding fiscal issues. The differences can be sorted out through a mechanism under the aegis of the NITI Aayog or the Inter State Council.

(Refer Epic August 2022 for Issues in Fiscal Federalism in India).

2. RBI's Views on Privatization of Public Sector Banks

News: The Reserve Bank of India (RBI) has published a bulletin which suggests that a 'big bang' approach to privatization of public sector banks (PSBs) 'may do more harm than good'. The RBI bulletin has concurred with the 'gradual approach' to privatization as adopted by the Government.

What are RBI's views on the privatization of public sector banks? – According to the RBI bulletin, a 'big bang approach' to privatization of public sector banks (i.e., privatizing all public sector banks at once) may do more harm than good. This is because: **(1)** While private banks (PVBs) are more efficient in profit maximization, PSBs have done better in **promoting financial inclusion**; **(2)** Private banks have failed to cater to the customers of the rural and semi-urban areas to date and customers from such locations are relying heavily on PSBs for banking; **(3)** Market confidence tends to be in favour of PSBs in terms of crisis. At the onset of the global financial crisis, deposits flew out of private banks to PSBs. The outflows happened despite these banks offering relatively higher interest rates than others.

What are RBI's views on reforms in the banking sector? – The Bulletin observes: (1) Recent mega-mergers of PSBs have resulted in the consolidation of the sector, **creating stronger and more robust and competitive banks**; (2) The establishment of the National Asset Reconstruction Company Limited (NARCL) would help in **cleaning up the legacy burden of bad loans** from their balance sheets; (3) The recently constituted National Bank for Financing Infrastructure and Development (NABFiD) would also provide an alternative channel of infrastructure funding, thus reducing the asset-liability mismatch concerns of PSBs. (Refer EPIC July 2022 for Privatization of Banks: Benefits and Concerns).

BATTING FOR PUBLIC SECTOR BANKS

WHAT RBI ARTICLE SAYS

- Profit maximisation is not the only objective of public sector banks (PSBs)
- They also have financial inclusion goals in objective function unlike private sector banks
- PSBs have done better in pushing financial inclusion

➤ They have gained higher degree of market confidence in recent years

➤ Have handled Covid-19 shock quite well, though they get flak for weak balance sheets

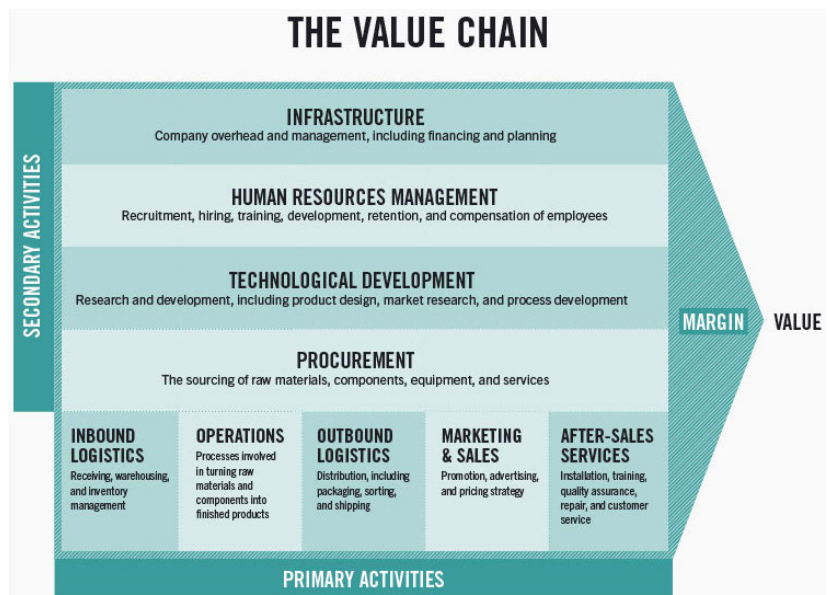
➤ Labour cost efficiency of PSBs is higher than private sector banks



3. 'Building Resilient Global Value Chain (GVC) Linkages in India'

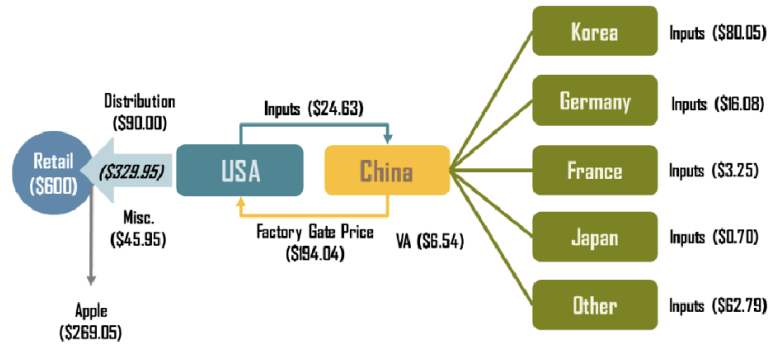
News: A report titled 'Building Resilient Global Value Chain Linkages in India' has been published by the Observer Research Foundation. It examines how India can better integrate with Global Value Chains.

What are Global Value Chains (GVCs)? – (1) A value chain describes the **full range of activities needed to create a product or service**. This includes conception of a product, procurement of raw material, manufacturing, transportation and warehousing (logistics), sales, marketing and distribution, and after-sale service; (2) Earlier, all the activities of a value chain were limited to a single country. But today, a single finished product often **results from manufacturing and assembly in multiple countries**, with each step in the process adding value to the end product; (3) Through GVCs, countries trade more than products; they trade know-how (knowledge, information, processes) and make things together; (4) Typically, the upper end of GVCs, which involves **research and development (R&D), design, services, and marketing are profit-intensive and mainly located in advanced economies**. The lower parts of the GVCs, meanwhile, tend to be **labour-intensive and have lower-value addition**, and are **typically located in developing countries** (lower wage regions). This gives rise to characteristic 'Smile Curve' of GVCs.



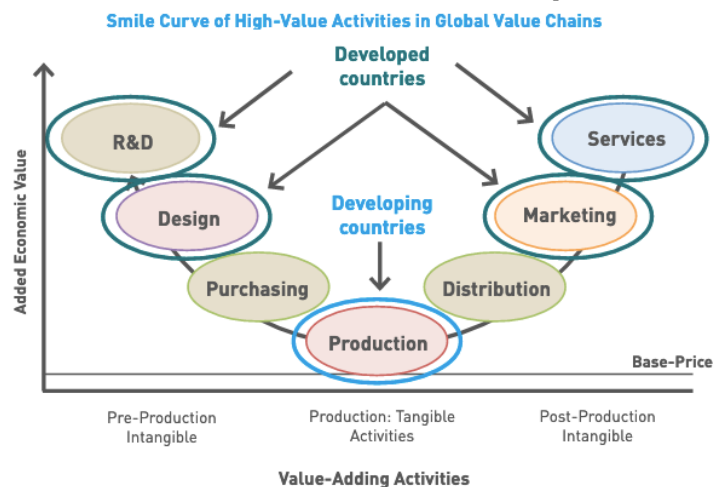
Source: hbs.edu. Activities of a Value Chain. The activities include procurement, transportation/logistics, marketing, service, research and development, design, planning and human resource management etc.

What is the significance of Global Value Chains? – (1) GVCs are a powerful drivers of **productivity growth, income boost, and increased living standards**. Estimates suggest that a 1% increase in GVC participation can boost per-capita income by more than 1%, particularly when countries engage in limited and advanced manufacturing; (2) Countries that embrace GVCs grow faster, import skills and technology, and boost domestic employment; (3) With GVC-driven development, countries generate growth by moving to higher-value-added tasks and by **embedding more technology and know-how in their agriculture, manufacturing, and services production**. GVCs provide countries the opportunity to leap-frog their development process; (4) The OECD's METRO Model shows that **localised manufacturing and value-addition models are more vulnerable to shocks**, and result in a significantly lower level of economic activity and fall in national incomes as compared to the interconnected regimes. Thus GVCs ensure **better absorption of shocks**.



Source: 'Global Value Chains and Smart Specialisation Strategy' published by the Joint Research Centre, the European Commission. Apple's iPhone is considered the most iconic example of Global Value Chains. The above image shows the input value addition (in terms of US\$) in various countries for an iPhone.

What are the Key Findings of the Report? – (1) **Opportunity for India:** Despite risks and uncertainties, further integration into GVCs is critical for India. In the current geopolitical climate, companies are searching for alternatives to China. It offers a window of opportunity for India to attract GVCs; (2) **Improve Business Climate:** India's attractiveness depends on its ability to improve the business climate. Investments in human capital development and infrastructure will be critical and will have co-benefits with other domestic priorities; (3) **Neglect of Imports:** Industry's dependence on both imports and exports is high, but relatively less attention has been paid to import challenges; (4) **Trade Policies:** India must re-evaluate its trade policies for improving GVC integration. India's recent trade agreements with the UAE and Australia are a testament to the country's willingness to enhance and deepen trade relationships; (5) In the medium term, India should focus on **enhancing its digital and physical infrastructure**, strengthening financial and investment regulations, and ensuring **clarity and certainty around trade policies and tariff rules**.



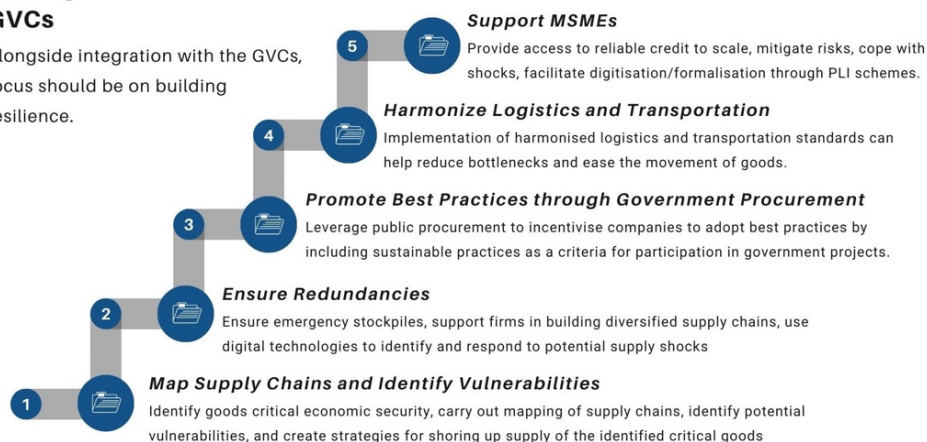
What factors favour India's integration with the GVCs? – (1) **Young Population:** Being a massive market with a young population makes India attractive. It is soon going to have the largest workforce in the world; (2) **FTA Initiatives:** India has recently decided to pursue preferential trade agreements aggressively, which will support integration into GVCs; (3) **Alternative to China:** The US-China trade war has created further opportunities for India to become part of major GVCs. MNCs headquartered in the US are looking for

alternative locations for manufacturing and reducing their risks by diversifying their sources of supply; **(4) Resilience of Supply Chains:** The COVID-19 pandemic has caused many bottlenecks in logistics networks, export restrictions on raw materials, intermediates, and supplies, playing havoc on the efficient functioning of GVCs. This has accentuated the need for both re-shoring and diversification of sources of supply to make GVCs function efficiently.

What are the challenges in integrating India with the GVCs? – (1) Policy Challenges: The most difficult obstacles to efforts in scaling up production in India include: **(a)** Complex tax policies and procedures; **(b)** Substandard quality of infrastructure; **(c)** Uncertainty in trade policy; **(2) Quality Issues:** Indian Firms also face problems in meeting quality standards, lack institutional support, and inadequate information. All this impedes their integration into GVCs; **(3) Limited Use of Trade:** Trade has not been fully leveraged in India in the last decade. Merchandise exports (that create jobs in manufacturing) have remained flat, at around US\$ 300 billion annually. India's trade as a % of GDP has fallen from 56% in 2011 to 40% in 2019. Trade recovery is likely to slow down further as a result of ongoing geopolitical uncertainties; **(4) Membership of Trade Blocs:** India has not been part of significant trade blocs and is a latecomer to the GVC space. GVCs thrive across geographies that liberalize trade with each other by **reducing tariff and non-tariff barriers**, actively implementing trade facilitation measures, and protecting investments. Latin American countries, the EU, ASEAN, Japan, and China have many mega regional trade arrangements that facilitate GVCs.

Strategies for Resilience of GVCs

Alongside integration with the GVCs, focus should be on building resilience.



Source: ORF, Building Resilient Global Value Chain Linkages in India: Findings from an Enterprise Survey

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What steps can be taken going ahead? – India should prioritize the following policy domains: **(1) Upgrading infrastructure:** **(a) Digital infrastructure:** **(i)** Enhance ICT, broadband, and 5G connectivity; **(ii)** Ensure clarity on data protection rules that may impact investment decisions for digital infrastructure; **(iii)** Implement cross-border paperless trading; **(b) Physical infrastructure:** **(i)** Implement the National Logistics Policy; **(ii)** Enhance both road and non-road inland transportation networks; **(iii)** Address gaps in power supply and distribution; **(2) Improving the business environment:** **(a) Investment and financial regulations:** **(i)** Ensure clarity on dispute settlement in the post-Bilateral Investment Treaty system; **(ii)** Regularise GST rates with import tariffs to equalise domestic costs and import costs; **(iii)** Promote financial access by improving creditworthiness assessments (especially for SMEs); **(b) Institutional Support:** **(i)** Set up a supportive contracting environment; **(ii)** Implement legislation to protect Intellectual Property; **(iii)** Provide support for regulation compliance; **(iv)** Increase investments in research and development (R&D); **(v)** Update and implementation of Labour Rules; **(vi)** Giving more momentum to initiatives like Skill India; **(c) Addressing information gaps:** **(i)** Develop a GVC integration action plan with an inclusiveness framework; **(ii)** Improve access to digital technologies and establish secure feedback loops and information sharing for technology-enabled sectors; **(d) Tax policies:** **(i)** Simplify and streamline tax procedures and policies; **(ii)** Remove barriers and disincentives for firm formalisation; **(3) Facilitating Trade:** **(a) Trade policy:** **(i)** Establish stable tariff rules; **(ii)** Pursue further FTAs with partners; **(iii)**

Review the link between BITs and trade, i.e., trade policy and investment policy; **(iv)** Simplify and streamline border procedures; **(b) Improving quality:** **(i)** Implement the Indian National Strategy on Standardization to increase firms' capacity to meet international standards.

Integration with GVCs will lead to faster economic growth and improve national income. However, GVC integration does not automatically result in direct economic benefits and improved living standards. Policy has an important role to play in ensuring the best possible outcomes. The Government must take all possible steps to enhance India's role in the GVCs.

4. The Issue of Road Safety in India

News: The death of industrialist Cyrus Mistry in a road accident has raised concerns regarding road safety. The NCRB data has shown that the number of fatalities due to road accidents has reached highest level since 2014 (Accidental Deaths in India, 2021).

What are latest data numbers on Road Accidents in India? – **(1)** According to the NCRB data, ~1.55 lakh lives were lost in road crashes across India in 2021 (18 deaths every single hour). This is the highest death in any year; **(2)** The number of accidents and deaths had decreased in 2020 due to lockdowns and travel restrictions. The number of accidents in 2021 were less than pre-pandemic levels, but the number of deaths have risen; **(3) Two-wheelers are most susceptible to fatalities** (44.5% deaths) due to road accidents followed by cars (15.1%), trucks/lorries (9.4%) and buses (3%); **(4)** According to the World Bank, ('Traffic Crash Injuries And Disabilities: The Burden on India Society') India accounts for 11% of the global deaths in road accidents while accounting for 1% of the world's vehicles. The road accidents costs INR 6 lakh crore or ~3% of the GDP. (However, the Ministry of Road Transport and Highways (MoRTH) estimates the socio-economic costs of road crashes at INR 1.5 lakh crore, or ~0.8% of the GDP). The report pointed out that **'poor people are more likely to be involved in a road traffic crash'**; **(5)** According to an IIT Delhi report, the national highways constitute 2% of the total length of roads in India, but account for ~35% of the fatalities.



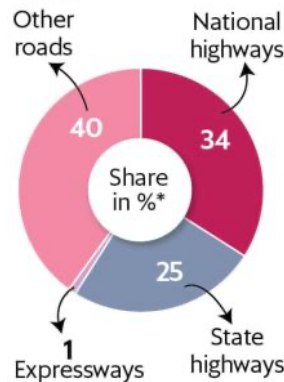
What are the reasons behind high number of road accidents and fatalities in India? – **(1) Human Factors:** Most of the accidents are attributable to human factors. These include **(a)** Over-speeding, **(b)** Careless driving like jumping a red light, driving or overtaking on the wrong side of the road, talking on the mobile phone while driving etc.; **(c)** Neglecting safety measures like not wearing helmets or seat belts; **(d)** Driving under influence of alcohol or drugs; **(e) Low awareness/adherence to safety norms** e.g., a survey found that only 7% of respondents wore rear seat belts. A WHO report (2022) noted that safety belts can reduce death and serious injuries to passengers in the back seat by 25%; **(2) External factors:** Fewer deaths are attributable to external or weather conditions or mechanical defects in vehicles e.g., more accidents occur in December/January due to fog; **(3) Road Design:** **(a)** Many roads are not designed from the perspective of accident prevention and have multiple **black spots**. Black spots are road locations that have a high number of crashes e.g., sharp corners in a straight road, a hidden junction on the fast road, etc.; **(b)** There are no separate lanes for pedestrians, 2-wheelers and very heavy vehicles; **(c)** Potholes or uneven surfaces due to poor upkeep which are cause of crashes and fatalities; **(4) Poor Quality of Vehicular design:** Indian Vehicles

lack safety features of global standards e.g., most low end cars don't have airbags. Car manufacturers compromise on safety features because price conscious Indian consumers are more focused on mileage and cost; (5) **Post-accident factors**: Absence of quick response (like immediate information to medical authorities) and lack of emergency medical facilities increase the number of fatalities. In addition, possibility of harassment by law-enforcement agencies (like accident related investigations) deter by-passers to respond.

What steps have been taken to address issues related to Road Safety? – (1) **National Road Safety Policy**: The Government formulated the **National Road Safety Policy (NRSP)** in 2010 based on the recommendations of **S Sundar Committee**. Under the policy, the Government has reviewed standards that govern road design and the maintenance of vehicles. **National Road Safety Council** has been created to supervise matters related to road safety; (2) **District Road Safety Committees (DRSC)** have been established in each district under the Section 215 of the Motor Vehicle Act of 1988. They are in-charge of creating a **district road safety plan**, an **emergency medical plan**, and making sure that ambulances were accessible and connected to hospitals; (3) The Government amended the **Motor Vehicles (Amendment) Act, in 2019** and enhanced the road safety measures: (a) Creating a **National Road Safety Board** to advise the government on road and traffic management (Notified in September 2021); (b) Higher fines for traffic crimes; (c) Creating a **Solatium Fund for victims** of hit-and-run accidents; (d) Regulated corruption by Automated testing for driver's licence and fitness certificate (FC); (4) The Act also protects **Good Samaritans from civil and criminal liability**; (5) The Government has taken several other steps like: (a) **Front and side crash tests** for new car models came into force in 2017; (b) New cars are required to have **airbags fitted as standard**; (c) The Government has notified the **guidelines for road safety audits** on National Highways; (d) Installation of Roadside Safety Crash barriers and speed warning boards; (e) A mobile app 'Sukhad Yatra 1033' has been launched which enables highways users to report potholes and other safety hazards on National Highways including accidents; (f) Efforts are on for rectification of identified Black spots; (g) Road Safety Audits are being carried out at all stages of development of the highway i.e. design, construction and operation stages; (h) Facilities such as Foot Over bridges and underpasses are being provided wherever required for safe crossing of pedestrians and other road users; (i) Road Safety Week is observed every calendar year for spreading awareness about safer behavior of road users on National Highways; (6) The Ministry has formulated a multi-pronged strategy to address the issue of road safety based on 4 Es: **Education, Engineering** (roads and vehicles), **Enforcement** and **Emergency Care**.

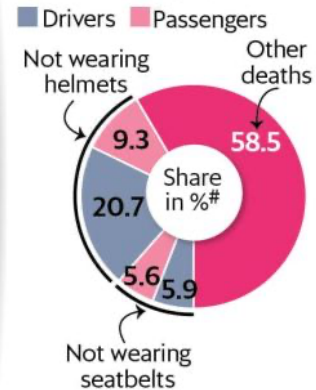
The anatomy of road accidents: where they happen and who they kill

By type of roads



*2019 to 2021

By use of safety gear

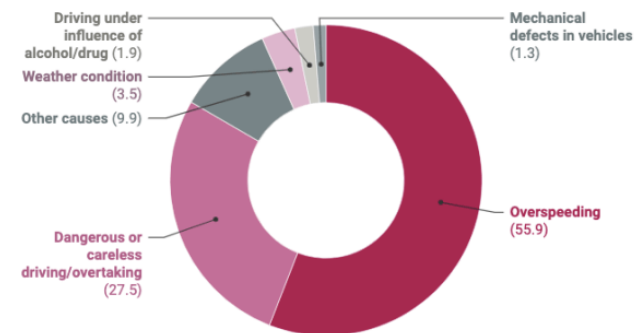


#2020 data

Source: National Crime Records Bureau; Ministry of Road Transport and Highways

Over speeding is responsible for a majority of lives lost on roads

Road accident deaths, by cause (in %)



What more steps can be taken going ahead? – (1) Vehicle safety features should be enhanced to conform to global standards like the EU's **General Safety Regulation**; (2) The Government should implement the important recommendations of the **KS Radhakrishnan panel on Road Safety**. The important recommendations were: (a) State Governments to perform a compulsory **Audit on road safety** to ensure adequate safety standards in the design, construction, and maintenance of roads; (b) **Creating awareness among people** on road safety rules, insurance policies, etc.; (c) Providing enough compensation to victims on time; (3) The standards related to safety in design of roads should be reviewed and brought in consonance with the international best practices, keeping in view traffic conditions in India. There can be separate lanes for vehicles and rules related to lane-driving must be implemented stringently.

PT BOX

Good Samaritan

A Good Samaritan is a person who **voluntarily comes forward to administer emergency care to a person injured in an accident**, or crash, or emergency situation. In 2016, the **Supreme Court of India gave “force of law” to the guidelines** for the protection of Good Samaritans issued by the MoRTH.

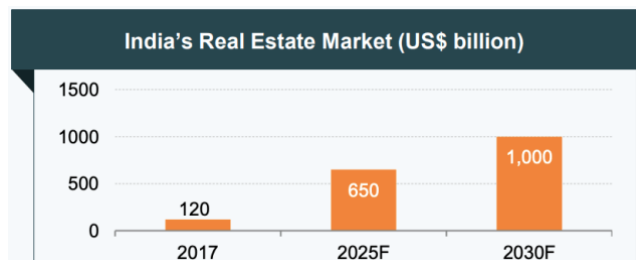
Good Samaritan Law protects Good Samaritans from harassment e.g., Police should not involve the Good Samaritans for investigation or the Hospitals should not refuse to treat the accident victims and should not charge for First Aid.

Road accidents have remained a silent killer in India. Despite high number of accidents, road safety has remained low policy priority for the Governments. **The approach to road safety has to be proactive, rather than reactive.** The public has as much role to play as the Government. **SDG target 3.6** calls to halve the number of global deaths and injuries from road traffic crashes. **SDG target 11.2** calls for improving road safety and access to public transport. The Government and general public must take all possible steps to meet the targets.

5. Issues with Real Estate Sector in India and the RERA Act, 2016

News: The controlled demolition of Supertech Towers in Noida, that violated several norms, brought forward the issues with the Real Estate Sector. RERA Act, 2016 is expected to address these challenges.

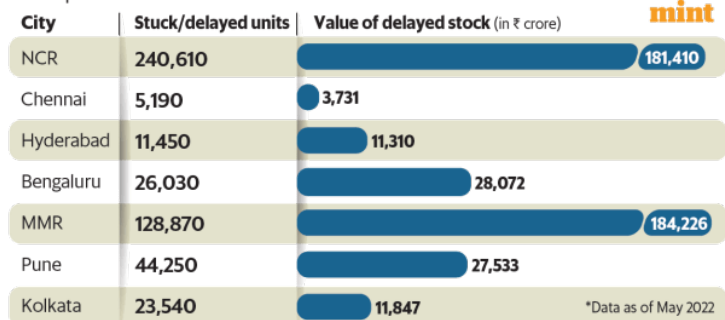
What is the current status of Real Estate Sector in India? – (1) The Real Estate Sector comprises of four sub-sectors: Housing, Retail, Hospitality, and Commercial; (2) The construction industry ranks 3rd among the 14 major sectors in terms of direct, indirect and induced effects in all sectors of the economy; (3) The real estate sector is the **2nd-highest employment generator**, after agriculture; (4) According to NITI Aayog, the Indian real estate market is predicted to be worth **US\$1 trillion by 2030** from US\$ 200 billion in 2021. It will contribute 13% of the country's GDP by 2025; (5) The sector will be driven by **rapid urbanization**. According to the Economic Times Housing Finance Summit, the current shortage of housing in urban areas is estimated to be ~10 million units. An additional 25 million units of affordable housing are required by 2030 to meet the growth in the country's urban population; (6) The rapidly expanding **digital economy** will create demand for real estate as well. According to Savills India (Real Estate Consulting Agency), real estate demand for data centres is expected to increase by 15-18 million sq. ft. by 2025.



What are the major issues in the Real Estate Sector in India? – (1) **Affordability and Inflation:** Urban housing is characterized by high prices. The surge in global commodity prices has increased the cost of construction. Rise in cost of living and interest rates on home loans further reduce affordability; (2) **Lack Of Efficient Project Management:** The requirement of multiple clearances from multiple Government departments, delay in grant of approval by civic authorities, a lack of funding sources, and budget overruns due to significant delays lead to time overruns. According to an estimate by a realty consultancy firm, the construction of about 240,000 homes remains stalled in the National Capital Region (NCR) alone; (3) **Lack of Transparency:** Though the real estate agents and projects are registered, all of them are not necessarily verified. This reflects the drop back of authorities in action; (4) **Corruption:** There is a nexus between corrupt government officials, builders and local political leadership. There is blatant violation of laws and rules in terms of land-use norms, FSI or fire and safety compliance etc. For instance, the Supertech towers were built on land initially earmarked for a public park. The plan was changed to allow construction of 9-storey towers. Eventually, towers were built with 40 floors. Similarly, the commercial building in Mundka, Delhi, where fire tragedy occurred in May 2022, was operating without Fire NOC.

Hanging fire

Projects worth about ₹5 trillion are stuck or delayed across key metropolitan cities.



NCR is national capital region; MMR is Mumbai metropolitan region.

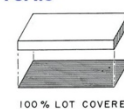
Source: Anarock Property Consultants

What steps have been taken to resolve the issues? – (1) The Government's focus has been towards **making housing affordable** for everyone. Changes in floor space index (FSI) rules have made land hoarding unsustainable; (2) The Government's push for '**Housing for All**' fuelled the demand for affordable housing and in turn generated much-needed liquidity in the sector; (3) The Government has tried to make the sector more transparent with the enactment of **Real Estate (Regulation and Development) Act, 2016 (RERA)**. It has improved the availability of information on project approvals. It has enhanced investors' confidence; (4) Other initiatives by the Union Government include: (a) Revival of stalled projects through Special Window for Affordable & Mid-Income Housing (**SWAMIH**) fund; (b) Creation of **affordable housing fund** with an initial corpus of about INR 10,000 crore to fund housing finance companies in the priority sector; (c) Real estate debt restructuring; (d) Moratorium benefits during COVID-19 pandemic (moratorium on interest payments on loans).

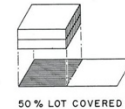
Floor Space Index

- It means the ratio between the **area of covered floor** (Built up Area) to the **area of the plot** (land) on which the building stands.
- FSI indicates the total amount of area (on all floors) which can be built upon a plot.
- Higher the FSI, **greater the number of floors** that can be constructed in the building.
- Thus, higher FSI results in **vertical urbanization**.

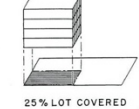
FSI 1.0



100% LOT COVERED
If all the plot area is covered under built-up area, only **1 floor** can be constructed.

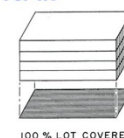


50% LOT COVERED
If 50% of the plot area is covered under built-up area, **2 floors** can be constructed.

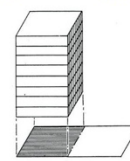


25% LOT COVERED
If 25% of the plot area is covered under built-up area, **4 floors** can be constructed.

FSI 4.0



100% LOT COVERED
If all the plot area is covered, **4 floors** can be constructed.



50% LOT COVERED
If 50% of the plot area is covered, **8 floors** can be constructed.

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What are the salient provisions of the RERA, 2016? – (1) **Regulatory Authorities:** The Act provides for State Governments to create Real Estate Regulatory Authority (RERA) with a mandate to **register and maintain a database of real estate projects**; and to **protect the interest of buyers**. All projects with plot size of minimum 500 sq.mt or eight apartments need to be registered with RERA. Real Estate Agents also need to register with the Authority; (2) **Grievance Redressal:** Regulatory Authorities have power to address grievances of buyers. If

buyer is not satisfied with the decision, they can challenge it to the **Appellate Tribunal** established in each State; **(3) Penal Provisions:** The Authorities can send show cause notices to developers, brokers and promoters if they violate their obligations under the RERA. If they are unable to justify their acts or omissions, they can be subjected to heavy fines. There are **provisions of imprisonment** for developers and agents for violation of orders of Appellate Tribunals and Regulatory Authorities; **(4) Timely Completion:** 70% of the funds collected from buyers need to be deposited in a separate dedicated account (escrow account) meant for that project only. The deposited money can be used only for the construction of that project. The provisions has been added to prevent diversion of funds by developer to some other project as was the common practice earlier. It will ensure timely construction. In case of delays, **builders have to refund buyers** or pay interest on their money for delays; **(5) Transparency:** At the time of registration of project, the developer has to furnish specific details related to project like the Sanctioned plan, time period or completion etc. The Act defines terms like **Carpet Area**, **Common Area** etc. Developers can't do alteration or addition in the sanctioned plans and specifications of project layout, without the written consent of 2/3rd of allottees/homebuyers; **(6) Protecting Buyer's Interest:** The **developer is liable to repair any structural defects** that occur within 5 years of purchase. Similarly, a builder cannot take more than 10% of the cost of the project from the buyer as advance or application fees.

Objectives of the RERA, 2016

- **Ensure accountability** towards buyers and protect their interests.
- **Enhance transparency**, ensure fair-play and reduce frauds and delays.
- **Introduce professionalism** and pan-India standardization.
- Establish **symmetry of information** between the builder and buyer.
- Establish a **regulatory oversight** mechanism to **enforce contracts**.
- Establish a fast-track **dispute resolution mechanism**.

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What has been the impact of RERA on Real Estate in India? – **(1)** The impact of RERA is not fully evident yet. Real estate projects have long gestation period. Since RERA is not applicable to projects prior to 2016, very few RERA compliant projects have been completed so far; **(2)** According to a report by the Government, RERA has led to **improved compliance to timelines by builders**. A delayed project in Noida was completed through intervention of the UP Real Estate Regulatory Authority at the request of the buyers; **(3)** Real Estate Market experts have observed that the urban market is now becoming dominated by big real estate developers that are **more professional and transparent in their dealings** (Corporatization of Real Estate). This is going to be good for the buyers in the long run; **(4)** Going ahead, there is going to be reduction in over-supply; as earlier, many developers used to undertake multiple projects without due clearances. Now, this will be kept in check.

What should be the approach going ahead? – **(1)** The RERA does not address the issue of delays in grant of approvals by the Government authorities. There is a need to **reform the approval process** and **make it more transparent**; **(2)** The practice of violation of planning and building norms followed by subsequent regularization need to be strictly prohibited. Violations should be severely punished; **(3)** As pointed out by several policy experts, the process of urban planning is poor in India. This has resulted in haphazard urbanization and creation of slums lacking basic amenities. The urban planning process should involve expertise of professional urban planners; **(4)** Several studies have noted the link of the Real Estate Sector and Black Money. Government is taking steps to increase transparency in real estate transactions and curb use of black money (like rationalization of stamp duties). However, more steps are needed in this regard e.g., stricter implementation of Benami Transactions Act, 2016.

India is poised to undergo rapid urbanization in coming decades. The real estate sector has an important role to play. It is crucial to address the lacunae challenging this sector in order to achieve sustainable urbanization. RERA, 2016 is the first corrective step in this regard. The Government must undertake further reforms related to urban planning bodies and checking corruption to make the process of urbanization inclusive and equitable.

6. Patent Regime in India: Provisions, Challenges and Solutions

News: A recent study pointed out that between 2000-2020, more than 40% Indian-origin applicants chose to file patents in foreign countries. Foreign Nations criticize India's patent regime for being too lenient on violation of patent rights. This necessitates improvement in patent landscape in India.

What is the regulatory framework regarding India's Patent Regime?

– (1) A patent is an exclusive set of rights granted for an invention, which may be a product or process that provides a new way of doing something or offers a new technical solution to a problem; (2) In India, patents are governed by the **Patents Act, 1970**. Patents are granted if the invention fulfils the following criteria: (a) It should be novel; (b) It should have inventive steps or it must be non-obvious; (c) It should be capable of Industrial application; (d) It should not attract the provisions of sections 3 and 4 of the Patents Act 1970; (3) India has gradually aligned itself with international intellectual property regimes. It is party to the Trade-Related Aspects of Intellectual Property Rights (TRIPS) Agreement under the WTO. India has amended its internal patent laws to comply with TRIPS, In 2005, when India introduced pharma product patents into the legislation; (4) India is also a signatory to several IPR conventions: (a) The Berne Convention, which governs copyrights; (b) The Paris Convention for the Protection of Industrial Property; (c) The Patent Cooperation Treaty (PCT); (d) The Budapest Treaty.

Global Patent Landscape

WIPO: It is the global forum for intellectual property (IP) services, policy, information and cooperation. It is a self-funding **agency of the UN**, with 193 member states. Its mission is to lead the development of a **balanced international IP system** that enables innovation and creativity for the benefit of all.

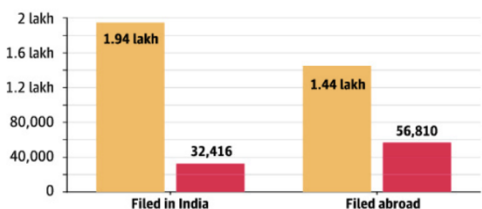
TRIPS: Trade-Related Aspects of Intellectual Property Rights is an agreement on international IP rights. It came into force in 1995 with the creation of the **WTO**. It establishes minimum standards for the availability, scope, and use of **7 forms of intellectual property**; Trademarks, Copyrights, Geographical Indications, Patents, Industrial Designs, Layout Designs for Integrated Circuits, and Undisclosed Information or Trade Secrets.

IP5: It is a forum of the world's 5 largest intellectual property offices, set up to improve the efficiency of the examination process for patents worldwide. The forum **facilitates greater integration** of the global patent system through sharing of patent data. The members are: (a) The European Patent Office (EPO); (b) The Japan Patent Office (JPO); (c) The Korean Intellectual Property Office (KIPO); (d) The National Intellectual Property Administration of the People's Republic of China (CNIPA); (e) The United States Patent and Trademark Office (USPTO).

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What is current status regarding creation of patents in India? – (1) India has been ranked **40th out of 53 countries** on the **Global Intellectual Property Index**. India's score increased from 36.04% (16.22 out of 45) in 2019 to 38.46% (19.23 out of 50) in 2020; (2) India's relative score increased by 6.71%, according to the **International IP Index** released by the Global Innovation Policy Center of the US Chamber of Commerce; (3) Compared to the five big patent offices (the US, Europe, Japan, Korea and China), the patent offices of India show relatively low application volume. According to the annual report by the Ministry of Commerce and Industry, the applications rose from 8,538 in 2000, to 50,659 in 2019; (4) A recent study pointed out that between 2000-2020, more than 40% Indian-origin applicants chose to file patents in foreign countries.

Filing in India and abroad
Between 2000 and 2020, Indian-origin applicants filed for 1.9 lakh patents in India and 1.4 lakh outside India. Of those filed in India, only 17% (about 32,000) were granted, while of those filed outside India, 39% (about 56,810) were granted



Why should India focus on improving its Patent Regime? – (1) High technology exports constituted a meagre 0.81% of total exports in 2014. India still relies heavily on agriculture exports. There is a huge potential to upgrade India's patent regime and boost exports; (2) A robust patent regime is a basic requirement for creating a culture of research and designing innovative products in a country. Patent is a reward bestowed on the creator for making his/her invention public. Effective rewards provide incentives

to innovate and create new products; (3) Patents would play a pivotal role in **solving the contemporary issues** of poverty, hunger, climate change etc.; (4) A robust patent regime will allow India to attract greater investments; (5) India, as a member of the WTO and signatory to the TRIPS is obliged to align its IP rights laws with the TRIPS agreement. If the domestic law is not strengthened, then it will undermine India's global image.

What are the challenges surrounding India's Patent Regime? – (1) Low Investments in R&D:

India's efforts to boost R&D and innovation are lagging. India spends around 0.7% of its GDP on R&D. This ratio is much higher for the US (2.8%), China (2.1%), Israel (4.3%) and Korea (4.2%). **Most investments in R&D in India are made by the government.** In 2015 Indian corporates spent a meagre US\$ 17 billion in R&D while

companies in China and the US spent US\$ 286 billion and US\$ 341 billion respectively; (2) **Poor Enforcement of IP Rights:** India has been accused of **having weak legislative and enforcement mechanisms** to protect the rights of patent holders. This phenomenon is more prominent in the pharmaceutical industry where violators are not harshly punished for copying the patented product. There are no special IP courts to deal with patent disputes. A patent lawsuit may take five to seven years to be settled after trial; (3) **Issues with Section 3 of Patents Act:** Section 3 imposes certain restrictions on the grant of patents. Some experts contend that stringent provisions like **Section 3d and power to issue compulsory licenses** also discourages companies from sharing their patented knowledge with India. They argue that based on the explanations and decisions of the Courts, the Section 3(d) objection should theoretically be raised only for derivatives of pharmaceutical substances. Instead the objection is invariably raised for all applications relating to pharmaceutical drugs even in the case of innovator compounds.

(However, the counter-argument is that the provision has been used rarely in India and there are strict criteria that must be met before compulsory license can be granted e.g., the only such instance of compulsory license was in 2012 for Naxavar, a crucial drug for kidney and liver cancer sold by Bayer. From a price of INR 284,000 for 120 tablets, the drug's price dropped down to INR 8,800 (pack of 120 tablets). Two subsequent requests for compulsory license for cancer and diabetes treatment drugs were rejected by the Indian Patent office).

Similarly, Section 3(k) bars patentability of computer programs per se or algorithms. This objection exists as default for all computer-related inventions. The life sciences sector faces hurdles in terms of patentability of in-vitro diagnostic methods and kits because they fall within the category of diagnostic and treatment methods. Isolated DNA sequences are also the subject of objections for not satisfying the novelty requirement; (4) **Poor remuneration:** Lack of attractive remuneration and facilities for research professionals induces them to migrate to other nations resulting in **brain drain**; (5) **Low IP Literacy:** Of the 50,000 patent applications filed in India in 2018-19, only 30% came from local companies or individuals while the rest were foreign applications. In comparison, China received 1.4 million patent filings mostly by its local inventors; (6) **Poor Infrastructure:** Due to **poor infrastructure and limited resources**, Indian patent offices are working at sub optimal levels leading to

Steps Taken for Improving Patent Regime in India

- **National IPR Policy (2016):** The policy aims to push IPRs as a marketable financial asset, promote innovation and entrepreneurship, while protecting public interest.
- **Kalam Program for Intellectual Property Literacy and Awareness:** It was launched by the Indian government to increase IP awareness and literacy.
- **Cell for IPR Promotion and Management:** It ensures focused action on issues related to IPRs and addresses the 7 identified objectives of the policy. CIPAM assists in simplifying and streamlining of IP processes, apart from undertaking steps for furthering IPR awareness, commercialization and enforcement.
- **Digitization:** Undertaking a massive digitisation exercise to clear the backlog of patent and trademark applications.
- **Government Schemes:** Recent investments and government initiatives such as **Make in India, Skill India, Digital India, and Start-up India** have significantly contributed to establishing the country as an attractive destination for Engineering R&D and innovation.

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delays in filing and grant of patents e.g., India had only 858 people working in patent offices in India, compared to 13,500+ in the US. Lack of manpower is a major reason for slow processing speed of patent applications in India; (7) India is facing pressure from the US, European Union, Switzerland and Japan to adopt stricter intellectual property measures which India calls as **TRIPS plus provisions**. These countries often try to push stricter IP clauses via trade or investment agreements. Recent U.S. Trade Representative's Special 301 report has again criticized India for having stricter patent laws along with poor implementation that discourages patent filing.

What should be done going ahead? – (1) The government should partner with industry and academics to identify various intellectual property rights issues and proactively address them; (2) Clear incentives should be provided to firms to invest in research and development through safeguarding their property and innovation; (3) Effective regulatory regimes should be encouraged to support intellectual property and the longer term investments of firms; (4) Public awareness should be created about the economic, social and cultural benefits of IPRs among all sections of society.

The promotion and protection of intellectual property spurs economic growth, creates new jobs and industries, and enhances the quality of life. Thus the need of the hour is to balance between profits of the organization and needs of the poor through a robust Patent Regime.

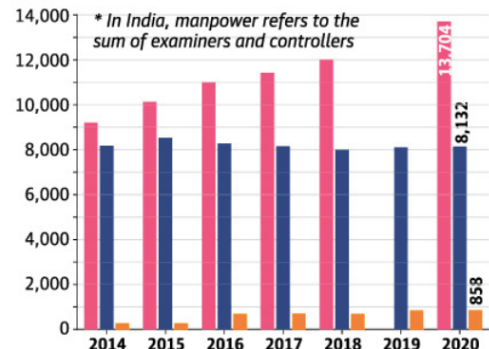
7. The UN Treaty on High Seas

News: 168 nations are negotiating a legally binding treaty to conserve biodiversity in High Seas (Areas beyond National Jurisdiction). It crucial to protect the marine biodiversity amidst rising threats due to anthropogenic activities. Only 1.2% of international waters fall under protected areas at present.

What is the current International framework regarding management of oceans? – (1) The **UN Convention on the Law of the Sea (UNCLOS)** lays down a comprehensive regime of law and order in the world's oceans; (2) It has established rules **governing all uses of the oceans and their resources**; (3) The convention was signed in 1982 and at present it has 168 parties; (4) The 1982 Convention was built on the works of earlier **UNCLOS I** held in 1956 at Geneva.

However, the 1956 Convention couldn't decide on the issue of breadth of territorial waters; different

Manpower shortage | The number of employees in India's patent offices is much lower compared to countries such as the U.S. and China. This leads to a high pendency rate. The chart shows the employee strength* in patent offices between 2014 and 2020



Slow processing speed | The chart shows the average time taken in select countries* to process patent applications. The time taken in India for the first office action is 4.8 months in 2021-22, among the quickest. But it takes 58 months for the final disposal of applications, the slowest among select nations



* Numbers for India is from the end of 2021-22, while the numbers for other countries are from 2020

PT BOX

Treaties under UNCLOS I

UNCLOS I held in 1956 at Geneva had resulted in signing of 4 treaties: (a) Convention on the Territorial Sea and Contiguous Zone; (b) Convention on the Continental Shelf; (c) Convention on the High Seas; (d) Convention on Fishing and Conservation of Living Resources of the High Seas.

countries had adopted different limits (3 mile to more than 12 miles); (5) The 1982 Convention settled the issue with comprehensive coverage of number of associated aspects like setting limits, navigation, archipelagic status and transit regimes, exclusive economic zones (EEZs), continental shelf jurisdiction, deep seabed mining, the exploitation regime, protection of the marine environment, scientific research, and settlement of disputes.

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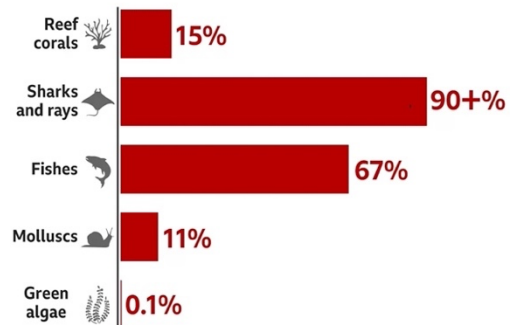
Regulatory Bodies under UNCLOS, 1982

The UNCLOS helped in creation of regulating authorities; (a) The International Tribunal for the Law of the Sea; (b) The Commission on the Limits of the Continental Shelf; (c) The International Seabed Authority. It has also outlined general responsibilities towards limiting marine pollution and preserving marine resources.

What is the proposed UN Treaty on High Seas? – (1) The treaty is being referred to as the 'Paris Agreement for the Ocean'. It is being negotiated under the UNCLOS; (2) In 2015, the United Nations General Assembly (UNGA) had passed a resolution to develop an **international legally binding instrument** under UNCLOS on the **conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction**. Since 2018, negotiations have been going on through a series of intergovernmental conferences; (3) The new treaty will establish a **global framework to conserve and manage biodiversity of the High Seas**. High seas constitute ~65% of surface and ~95% of volume of oceans; (4) The treaty is focused on key areas: (a) The conservation and sustainable use of marine biodiversity in areas beyond national jurisdiction (BBNJ); (b) **Marine Genetic Resources** (MGRs: biological material from plants and animals in the ocean that can have benefits for society, such as pharmaceuticals, industrial processes and food), including questions on benefit-sharing; (c) Area Based Management Tools (ABMT), including Marine **Protected Areas** (MPAs); (d) Environmental Impact Assessments (EIA); (e) Capacity-building and the Transfer of Marine Technology (CB&TMT) (ensuring less-industrialized countries can meet treaty objectives through a mechanism for sharing marine technology and knowledge).

What is the need for the Treaty on High Seas? – (1) Part XII of UNCLOS (1982) contains special provisions for the protection of the marine environment. However, there are many governance gaps and shortcomings that do not address contemporary challenges e.g., there is no comprehensive, agreed-upon **framework governing resource extraction or conservation in the international waters** (high seas); (2) The oceans are facing several challenges: (a) Technological advances enabling greater access to high seas resources are **exposing marine ecosystems to severe impacts** from fisheries and other extractive industries. According to a study commissioned by the National Oceanic and Atmospheric Administration, between 10% and 15% of marine species are already at risk of extinction; (b) Marine life is at risk of exploitation from the increasing threats of **climate change, acidification, overfishing and shipping traffic**. Many migratory species such as turtles and whales move through the world's oceans interacting with human activities like shipping which can cause them severe injuries and death; (c) Chemical, noise and plastic pollution is rising unabated in the seas; (d) According to NASA, 90% of global warming is occurring in the oceans.

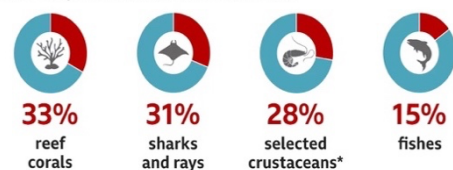
Global species assessed for extinction threat



*Assessed species include lobsters, freshwater crabs, freshwater crayfishes and freshwater shrimps

One in ten marine species are at risk of extinction

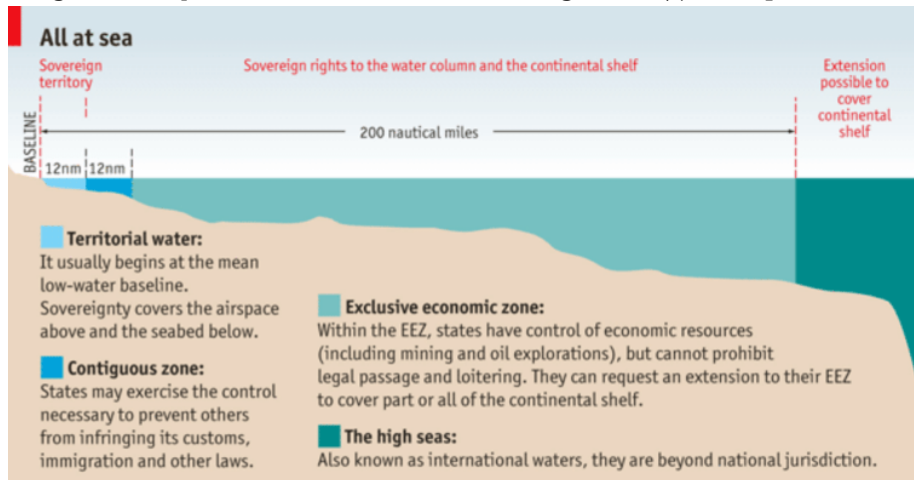
Share of species at threat of extinction



*Assessed species include lobsters, freshwater crabs, freshwater crayfishes and freshwater shrimps

A legally binding treaty would put limits on how much fishing can take place, restrict the routes of shipping lanes and exploration activities like deep sea mining. It will help in slowing down the pace of deterioration of marine ecosystems and restore their capacity to self-stabilization.

What are the major impediments to the High Seas Treaty? – The negotiations have failed to reach consensus on several contentious issues like: **(1) Ensuring fair access to marine resources** (MGRs) for all. Industrialized nations have technology to access deep sea resources. Just 10 industrialized countries account for 71% of fishing catch value and 98% of patents on genetic sequences of marine life in the high seas; **(2) Principles and procedures to establish Marine Protected Areas** (MPAs): They are global common that belong to all countries. No single country can claim exclusive right over high seas and its resources. There has been lack of consensus on framing an **overarching mechanism for implementing and managing MPAs**, how to integrate them with existing fisheries management policy or how the environmental impacts of planned activities should be assessed; **(3)** There are also differences regarding **funding and support for developing countries**; **(4)** Arctic is an another undecided issue. As Arctic ice melts due to climate change and shorter winters, it will open up new area of extraction. But countries are divided over the activities to be permitted and their impact on Arctic ecosystem.



Jurisdictions under the UNCLOS

- **Internal Waters:** Covers all water and waterways on the landward side of the baseline. The State is free to set laws, regulate use, and use any resource. **Foreign vessels have no right of passage** within internal waters.
- **Territorial Waters:** Extend up to **12 nautical miles** (22 kilometres; 14 miles) from the baseline, the coastal state is free to set laws, regulate use, and use any resource. Foreign Vessels have the **right of innocent passage** through any territorial waters (Passage is not prejudicial to the peace or security of the coastal State. Fishing, polluting, weapons practice, and spying are not innocent).
- **Contiguous Zone:** Extends further 12 nautical miles beyond the territorial waters (24 nautical miles from baseline). The state can enforce laws in four specific areas: Customs, Taxation, Immigration, and Pollution.
- **Exclusive Economic Zones (EEZs):** EEZs extend up to 200 nautical miles (370 km; 230 mi) from the baseline. Within this area, the coastal nation has sole exploitation rights over all natural resources.
- There is no formal definition of International Waters or High Seas in international law, but seas beyond EEZ are called as **High Seas**.

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What should be the approach going ahead? – **(1)** There is a need to facilitate greater participation to allow all countries and communities (especially coastal state, small island and Landlocked developing countries) to have a say in how marine resources existing outside of national jurisdiction should be shared; **(2)** Adjacent coastal states should have a role in decision-making mechanisms pertaining to activities in areas beyond national jurisdiction that affect them; **(3)** There is a need to have an effective, reliable mechanism to build capacity and transfer marine technology to the developing nations. It is essential to the success of the treaty.

The marine ecosystems are facing dangers of unprecedented level. Ocean systems are a vital buffer against global warming. They provide a primary protein source for more than 3 billion people, and support the livelihoods of almost 600 million people. Just like atmospheric warming; the window to take actions to protect marine ecosystems, before irreversible catastrophic damages happen, will be limited. The countries must act with urgency to reach consensus to protect marine ecosystems in the earnest.

PT BOX

Deep Sea Mining

Deep-sea mining is the process of extracting/excavating mineral deposits from the **deep seabed**. The deep seabed is the seabed at ocean depths **greater than 200m**. It covers about 2/3rd of the seafloor. Deep sea mining has been necessitated by depleting terrestrial deposits of metals like copper, nickel, aluminium, manganese, zinc, lithium and cobalt. Their demand is increasing in technologies like smartphones, wind turbines, solar panels and batteries. Research suggests deep-sea mining could severely harm marine biodiversity and ecosystems.

8. Security Challenges with the Deployment of 5G

News: The deployment of 5G will come with associated law enforcement and security challenges.

What is the importance of 5G Network for law enforcement in India? – (1) The police can have faster access to critical information in real-time. It would be able to nab criminals. 5G has **high bandwidth** and will allow **ultra-fast Internet speeds** with **low latency**. The police devices such as body cams, facial recognition technology, automatic number-plate recognition, drones, and CCTVs, working on the 5G network would perform better; (2) The increased storage capacity promised by 5G will allow the police to streamline their investigation methods; (3) 5G will also allow **rapid** and **secure communication** within the organization as well as between civilians and emergency responders.

What are the challenges associated with the adoption of the 5G networks? – (1) Most police systems are outdated and do not have infrastructure that is compatible with 5G; (2) India has a poor cybersecurity foundation. India's **previous networks** were hardware-based, but 5G is a **software-defined digital routing**. Therefore, the networks are susceptible to cyber threats such as botnet attacks, man-in-the-middle attacks, and distributed denial-of-service (DDoS) overloads; (3) 5G lacks **end-to-end encryption**. Hackers can hack into systems to perpetrate cybercrimes; (4) The 5G led bandwidth expansion will enable criminals to embezzle databases easily. The frequency of attacks would increase with time as more devices will be connected to the 5G network; (5) Due to a faster network, there could be a lower probability of criminals getting caught after commissioning identity theft or credit card fraud or stealing information from devices; (6) 5G may also make it easier for criminals to perpetrate cyberbullying; (7) It could be easy to carry out DDoS onslaughts because of the real-time communication capabilities between multiple criminal groups; (8) 5G would enable hackers to enter into **Internet-of-Things (IoT) devices** and commit crimes e.g., an IoT vehicle can be hacked to cause an accident or make a ransom to collect insurance money, etc.

What are solutions for fighting new-age crimes? – (1) The police forces will need to be trained so that they are able to recognize **new 5G-enabled crimes**. There should be the development of training programs that focus on such 5G-enabled crimes; (2) The government and telecom companies could think of setting up a **5G crime task force** to monitor and identify new crimes and develop countermeasures; (3) Regulations may also require telecom companies to allow police officers access to their equipment to track the location of victims and perpetrators of 5G-facilitated crimes for countermeasures; (4) Law enforcement agencies will have to **evolve new strategies** to counter cyber-crimes; (5) Law enforcement agencies should have the

necessary infrastructure to take full advantage of all that 5G can offer. The government must provide funds to invest in modern tools, software and infrastructure. (Refer EPIC June 2022 for 5G Technology in India).

9. Counter-terrorism Measures in Jammu and Kashmir

News: The security forces have adopted multi-prong approach to counter terrorism in the J&K.

What are the security challenges in J&K? – The UT of J&K has been afflicted by the problem of **cross-border terrorism**, **separatist violence** and **armed militancy** for the last 3 decades. A more recent challenge is posed by the **targeted killings** of religious minorities, migrants, security forces personnel and civilians.

What is the current terrorism outlook for the region? – (1) A vital indicator of the improved security situation in Kashmir Valley is the residual strength of the terrorists operating in the region; (2) Numbered thousands at the peak of militancy in the early 1990s; the current terrorist strength in Kashmir stands at approximately 163, the lowest in decades; (3) Security forces note that, unlike the earlier times, Pakistani terrorist have been reduced to guiding and motivating the local terrorists who have taken charge of the militancy in the region.

Region	Pakistani terrorists	Local terrorists	Total
North Kashmir	60	17	77
South Kashmir	18	68	86
Total	78	85	163

What steps have been taken to counter terrorism in J&K?

(1) **Tackling Cross-Border Militant Infiltration:** (a) Pakistan-based terrorist group have used the mountainous terrain in north Kashmir to sneak into the Kashmir Valley (with active support of Pakistan's security establishment). Militants also enter from the south of *Pir Panjal* range, sometime through tunnels as long as 400 meters; (b) To counter infiltration, security forces have raised a **three-tiered counter-infiltration grid**. In this, the **Indian Army** forms the first tier on the LoC, followed by the second tier of paramilitaries such as the Central Reserve Police Force (CRPF), and the third one of the J&K Police (JKP); (c) The security forces have deployed **Anti Infiltration Obstacle System fencing** (AIOS) and strengthened surveillance through the use of drones, night-vision equipment, and hand-held thermal imaging devices. Infiltration has come down significantly e.g., in 2020, 2021 and 2022 (June) respectively 62, 58 and 5 infiltration attempts were made. Only 77 managed to successfully infiltrate in this period;

(2) **Crackdown on Terrorist:** Security forces have kept up the pressure on the terrorist groups in the hinterland through several Counter-Insurgency (CI) operations. These have yielded significant success by eliminating the top militant leadership. Militants have been reduced to carrying out an **intermittent campaign of targeted killings against soft targets**. Sustained CI operations have forced terrorist groups to join hands and operate together. Pakistan's ISI is playing a role in bringing the groups together;

(3) **Punitive Action on Ecosystem:** Law enforcement agencies are taking **punitive action** against the elements of the support ecosystem. It includes the network of **Over Ground Workers** (OGWs) and terrorist sympathisers. The government began removing those employees who abetted secessionist and militant activities. Since 2019, the J&K Police has arrested more than 900 OGWs under the Public Safety Act and the Unlawful Activities (Prevention) Act;

(4) **Countering Terror Financing:** The NIA has launched several investigations into the cases of terrorist financing. The Ministry of Home Affairs (MHA) has set up a **Terror Monitoring Group**, comprising

representatives of **security** (NIA, Central Bureau of Investigation, IB and JKP) and **financial agencies** (Central Board of Direct Taxes, and Central Board of Indirect Taxes and Customs) to **closely monitor terrorist financing cases**. The crackdown has dramatically reduced the incidents of stone-pelting.

(5) Soft Measures: Soft measures include exercising maximum restraint, avoiding pellet guns, minimizing collateral damage during the Counter-Insurgency (CI) operations and protest demonstrations. Locals have appreciated these measures. Since August 2019, there have been **no civilian casualties** during the encounters or pellet gun injuries in protest demonstrations. Top security officials have made an **outreach to the families of active militants** to request their kids to surrender.

These steps have improved the security situation in the valley. This has **boosted the local tourism sector**. In the first half of 2022, more than **10 million tourists visited the region**, making it the most successful tourist season in Kashmir's history.

What are the evolving/emerging challenges in Counter-Terrorism (CT) in J&K?

(1) Radicalisation and Terrorist Recruitment: There is uptick in local terrorist recruitment in certain regions due to radicalisation of the local youth. Radicalisation is aided by peer pressure, feeling of victimhood, and self-radicalisation enabled by ISI-led agenda. **Cyberspace** (dark web and social media platforms) has amplified this religious propaganda.

Security forces have launched multiple initiatives to reverse the trend. For instance, the Indian Army's '**Sahi Raasta**' initiative aims to bring the youth on the right track through national integration tours, sports training programmes and festivals, and skill development workshops.

(2) 'Hybrid terrorists' and virtual terrorist outfits

To commit violence, terrorist outfits are now using terrorist sympathisers. Most of them have no criminal records and are likely to escape police scrutiny. These '**hybrid terrorists**' are the ones who are primarily responsible for the recent acts of targeted killings. Security forces have also noted proliferation of **virtual terrorist groups** which are actually **front organisations** for LeT and other terrorist groups. In response, the JKP is strengthening its human and technical intelligence capabilities. This is proving helpful in apprehending these hybrid terrorists.

(3) Pakistan's Information Warfare

Since August 2019, ISI's disinformation machinery has gone into overdrive on social media platforms with anti-India propaganda. The ISI has sought to **project Kashmir's militancy as 'indigenous resistance'**. In addition, it has sought to **label India as a major human rights violator**. This propaganda aims to draw attention to Kashmir and gain international sympathy. This is a significant challenge because it creates a narrative of falsehood against India and the security forces. This has the potential to undo the gains made by counter-terrorism efforts in J&K post-August 2019.

Countering these narratives will require a comprehensive national effort anchored in India's democratic credentials. Army's Srinagar-based Chinar Corps is implementing a counter-response, but its efforts need national amplification.

Polity

1. Law on Remission

News: The Government of Gujarat has released 11 convicts under its remission policy. They were convicted for gangrape during 2002 riots in Gujarat. The move has drawn criticism from human rights activists and the opposition parties.

About the Law on Remission

The word remission of a sentence is used to refer to a **reduction in the duration of the sentence** imposed while the nature of the sentence remains untouched.

Under **Article 72** and **Article 161** of the Constitution, the President and Governors have the power to **pardon, suspend, remit, or commute** a sentence passed by the courts.

Statutory Power of Remission

Since Prisons is a State Subject, State Governments have powers under **Section 432** of the **Code of Criminal Procedure (CrPC) to remit sentences**. However, Section 433A of the CrPC puts certain restrictions on these powers of remission. Under this, a person sentenced for life imprisonment, can't be released from the prison unless he has served at least 14 years of imprisonment.

Grounds for Remission

States set up a **Sentence Review Board** to exercise the powers under Section 432 of the CrPC. The Supreme Court has held that states cannot exercise the power of remission arbitrarily, and must follow due process.

In **Laxman Naskar v. Union of India (2000)** the SC laid down 5 grounds : **(a)** Whether the offence is an individual act of crime that does not affect society; **(b)** Whether there is a chance of the crime being repeated in future; **(c)** Whether the convict has lost the potentiality to commit the crime; **(d)** Whether any purpose is being served in keeping the convict in prison; and **(e)** Socio-economic conditions of the convict's family.

2. Registered Unrecognized Political Parties (RUPPs)

News: The Election Commission of India (ECI) has delisted 86 non-existent Registered Unrecognized Political Parties (RUPPs) and declared addition 253 as 'Inactive RUPPs'.

About Registered Unrecognized Political Parties (RUPPs)

The political parties with the following criteria are called RUPPs: **(a)** The political party is newly registered; **(b)** The political party have not secured enough percentage of votes in Assembly or General Elections to become a State party; **(c)** Political Parties that have never contested in elections since they got registered with the Election Commission.

Proliferation of Unrecognised Political Parties (URPPs)

EC data shows that in 2021 there were 2796 Registered unrecognised political parties. It is an increase of 300% over last two decades. In 2019, Lok Sabha elections, only 30% of these parties contested elections.

Provisions related to RUPPs

These parties are not entitled to an exclusive allotment of a **reserved election symbol**. They have to choose from a list of 'free symbols' issued by the Commission.

They are not eligible to get free copies of electoral rolls, and free authorisation for broadcast and telecast facilities over All India Radio and Doordarshan during Assembly and General Elections.

They are not eligible for subsidized land for party offices.

However, like recognized parties, 100% tax exemptions are given to them subject to certain conditions.

They need not to disclose cash donations upto Rs. 2000.

Issues

Combination of tax exemptions, anonymity in funding and easy registration encourages formations of such parties which is susceptible to abuse.

Introduction of electoral bonds is also problematic because it allows anonymity and problematic sources of funding political parties.

Declaration as non-existent and inactive

The ECI has declared them non-existent and inactive because:

(a) Under section 29A of the Representation of the People Act, 1951, every political party has to communicate any change in its name, head office, office bearers, address, and PAN to the Commission without delay. 86 RUPPs have been found to be non-existent after physical verification.

(b) 66 RUPPs applied for a common symbol as per the **Symbol's Order 1968** but did not contest the respective elections. A common symbol is granted to RUPP based upon an undertaking for putting up at least 5% of total candidates with regard to the legislative assembly election of a State.

(c) A political party **must contest an election within 5 years of its registration** and thereafter should continue to contest. If the Party **does not contest elections continuously for 6 years**, the Party shall be taken off the list of registered parties.

3. Economic Impact of Court Judgments

News: NITI Aayog has commissioned a report titled 'Economic Impact of Select Decisions of the Supreme Court and the National Green Tribunal.

About the Report

The report has been prepared by the Consumer Unity & Trust Society (CUTS), a Jaipur-based policy research and advocacy group. The objective of the report is to build a narrative to **support better sensitivity to the economic impacts of judgments** by the judiciary and will serve as useful inputs for the training of judicial officers.

Key Findings of the report

The report has estimated that 5 orders of the Supreme Court and the National Green Tribunal between 2018-2021 favouring larger protection for the environment had cost the government around INR 8,000 crores in revenue. Around 16,000 workers also lost their jobs due to these judgments.

Recommendations given by the Report

(a) The Court should undertake an **economic-impact analysis** based on forecasts put together by a group of experts to address and adjudicate public interest cases involving economically sensitive matters.

(b) Judicial officers to be exposed to (basic) economic issues so as to enable them to recognise the need for a holistic and balanced decision and approach.

(c) In cases where strict adherence to legal provisions may lead to substantive economic losses, the decision-making of the SC should be guided by the larger public good.

(d) The judiciary should institutionalize the idea of a cost-benefit analysis as part of their decision-making.

4. Supreme Court's Judgment on Benami Transactions (Prohibition) Amendment Act, 2016

News: The Supreme Court has struck down two vital provisions of the Benami Act which were introduced in 2016.

Background

In 2016, the Government of India enacted the Benami Transactions (Prohibition) Amendment Act of 2016. The law amended the original Benami Act of 1988.

Section 3(2) introduced through the amendment mandates a punishment of **3 years imprisonment** for those who have entered into Benami transactions between September 5, 1988, and October 25, 2016. Thus, a person can be sent behind bars for a Benami transaction entered into 28 years before the section even came into existence.

Section 5 said that any property which is the subject matter of a benami transaction shall be liable to be **confiscated by the Union Government**.

In 2019, the **Calcutta High Court** ruled that the Benami Transactions (Prohibition) Amendment Act, 2016 **cannot be applied retrospectively**. The Union government then appealed to the Supreme Court against this judgement.

Supreme Court's Verdict

The Supreme Court has declared these sections introduced through this amendment as unconstitutional and held that these **provisions cannot be applied retrospectively**.

The Court held that the amendment also **violated Article 20(1)** of the Constitution. Article 20(1) mandates that no person should be convicted of an offence which was not in force "at the time of the commission of the act charged as an offence".

5. Supreme Court's 3 Question Test for validity of EWS Quota

News: The Supreme Court will examine whether the Constitution (103rd Amendment) Act violates the basic structure of the Constitution. The Act had introduced 10% quota for the Economically Weaker Section (EWS) in government jobs and admissions.

Challenge to the 103rd Constitution Amendment Act

The 103rd Constitution Amendment Act has been challenged on the following grounds:

(a) It violates the basic structure of the Constitution. The special protections guaranteed to socially disadvantaged groups are part of the basic structure. But the Act departs from this by promising special protections on the sole basis of economic status.

(b) It violates the Supreme Court's ruling in **Indra Sawhney & Ors v Union of India (1992)**, which capped reservations at 50%. The SC held that **economic backwardness cannot be the sole criterion** for identifying a backward class.

(c) Private, unaided educational institutions have argued that their fundamental right to practise a trade/profession is violated when the State compels them to implement its reservation policy and admit students on any criteria other than merit.

Government's Stand

The Government has brought this amendment under **Article 46 of the Constitution (DPSP)**, the State has a duty to protect the interests of economically weaker sections.

The Government has relied on the SC's ruling in **Ashoka Kumar Thakur v Union of India (2008)** in which the Court upheld the 27% quota for OBCs. The SC accepted that the definition of OBCs was not made on the sole criterion of caste but a **mix of caste and economic factors**; thus, there need not be a sole criterion for according reservation.

Supreme Court's Approach in the EWS Case

Attorney General had drafted 4 issues for the consideration of the Bench. The Court decided has to take up 3 of them; Whether the 103rd Constitution Amendment Act breaches the basic structure by: **(a)** Permitting the State to make special provisions, including reservation, **based on economic criteria**; **(b)** Permitting the State to make special provisions in relation to **admission to private unaided institutions**; **(c)** **Excluding** the SEBCs (Socially and Educationally Backward Classes), OBCs (Other Backward Classes), SCs (Scheduled Castes) and STs (Scheduled Tribes) from the scope of EWS reservation.

6. Constitution Benches

News: The new Chief Justice of India has assured that there will be at least 1 Constitution Bench functioning throughout the year in the Supreme Court.

Constitution Bench

A Constitution Bench is a bench of the Supreme Court having **5 or more judges** on it.

Most cases before the SC are heard and decided by a bench of 2-3 judges (called a **Division Bench**).

Constituting the Constitution Bench

Under Article 145(3) of the Constitution, the Supreme Court of India forms Constitution Benches to adjudicate on matters:

(a) 'Involving a substantial question of law as to the interpretation of the Constitution';

(b) Reference made by the President under Article 143.

(c) 2 or more three-judge benches of the Supreme Court have delivered conflicting judgments on the same point of law, thus warranting a definitive pronouncement by a larger bench.

As of August 1, 2022, the Supreme Court's records show that there are 342 five-judge bench cases, fifteen seven-judge bench cases and 135 nine-judge cases pending before the Court.

(Refer EPIC May 2022 for Pendency of Cases of Constitutional Importance).

7. Expression of Views by Civil Servants

News: A senior IAS Officer from Telangana tweeted from her personal account questioning the decision of the Government of Gujarat to release 11 men convicted on charges of gang-rape.

About the Right

The citizens have the fundamental right of free speech guaranteed by the Constitution, subject to reasonable restrictions. Hence, civil servants also have the right to tweet but **disciplinary rules** prevent a Government servant from becoming a member of a political organization or expressing herself freely with regard to anything that has to do with the governance of the country.

In a democracy, the right to criticize the government is also a fundamental right and nobody can muzzle that.

Judicial View

Lipika Paul v. The State Of Tripura: The Court said that a civil servant (the petitioner) is not devoid of her right to free speech, a fundamental right which can be curtailed only by a valid law. However, this is subject to the civil servant not crossing the limit set in the **Conduct Rules**.

Kerala High Court Judgement: The Court said that one cannot be prevented from expressing his views merely because he is an employee. In a democratic society, every institution is governed by democratic norms.

Rule 9 of the Central Civil Services (Conduct) Rules

It says that “No Government servant shall make any statement of fact or opinion, which has the effect of an adverse criticism of any current or recent policy or action of the Central Government or a State Government”. According to Justice B N Srikrishna (former Supreme Court Judge), the Judiciary is of the view that this rule is too stringent. Justice Srikrishna concurs that **some restrictions are warranted** while in Government service. However, the expression ‘criticism of government policy’ is very vague and needs careful scrutiny. Too stringent implementation of Rule 9 can impinge on freedom guaranteed under Article 19.

Policy

1. Data on Manual Scavengers

News: The Ministry of Social Justice and Empowerment has provided data on Manual Scavenging.

Manual Scavenging

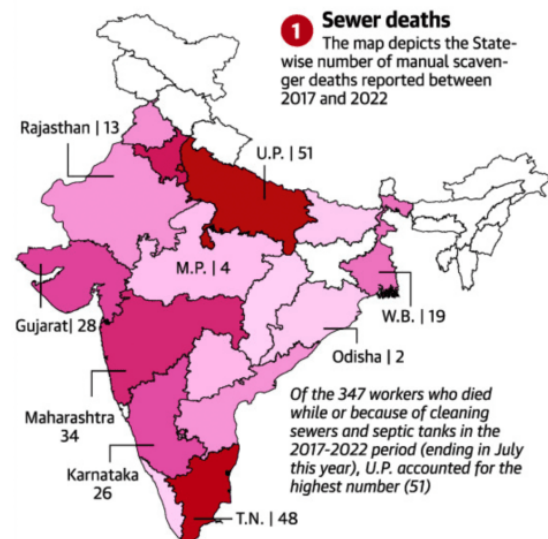
People Engaged in Manual Scavenging: According to the surveys conducted by the Ministry in 2013 and 2018, there are over 58,000 people engaged in manual scavenging in India. However, activists claim that this is an underestimate. The practice is prevalent despite a 2013 law prohibiting such employment.

State wise Manual Scavenging data: More than 55% of the manual scavengers identified were from Uttar Pradesh.

Caste wise split of workers: More than 40,000 workers belong to the Scheduled Castes while fewer than 1,000 belong to the Scheduled Tribes and OBCs combined.

Deaths due to Manual Scavenging: Around 347 workers died while or because of cleaning sewers and septic tanks between 2017 and 2022. Uttar Pradesh reported the highest number of deaths.

Rehabilitation of Manual Scavengers: The self-Employment Scheme for Rehabilitation of Manual Scavengers (SRMS) is expected to provide one-time cash assistance of Rs 40,000, skill development training and Capital subsidy for self-employment projects for workers.



2. India's Sex Ratio at Birth

News: The Pew Research Center has released a report titled 'India's sex ratio at birth'.

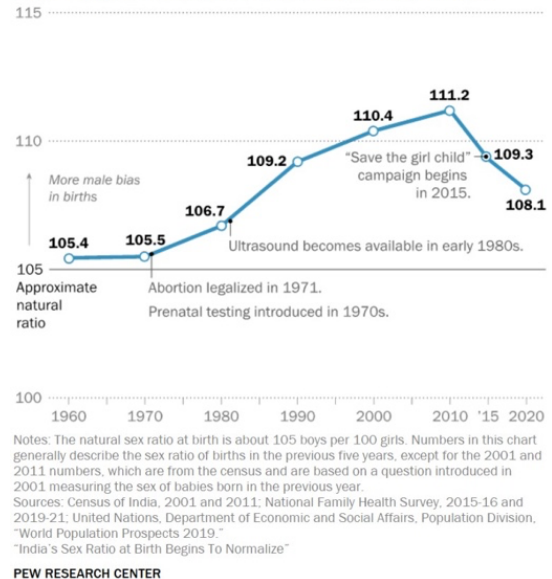
Key Findings of the Report

India's Sex Ratio: The Global average sex ratio at birth is 105 male babies for every 100 female babies. The same ratio was prevalent in India till 1960s. After that it worsened with the availability of pre-natal sex tests. The ratio had worsened to 110 in 1990s.

Now the sex ratio at birth has normalised slightly over the last decade, narrowing to 108 boys born for every 100 girls in 2019-21.

India's sex ratio at birth has been moving toward balance in recent years

Sex ratio at birth, or the number of male births per 100 female births



Religion-wise Sex Ratio

Hindus: The sex ratio is ~109 boys to 100 girls.

Sikhs: In the 2001 census, Sikhs had a sex ratio at birth of 130 males per 100 females. By the 2011 census, the ratio had narrowed to 121 boys per 100 girls. According to the latest NFHS data, it now revolves around 110.

Christians and Muslims: Both Christians (105 boys to 100 girls) and Muslims (106 boys to 100 girls) have sex ratios close to the natural norm.

Missing Girls: The average annual number of baby girls "missing" in India fell from about 480,000 in 2010 to 410,000 in 2019. The "missing" here refers to how many more female births would have occurred during this time if there were no female-selective abortions.

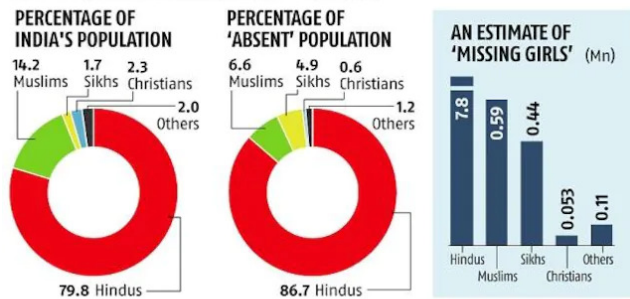
Significance of the Data

The data suggest that Indian families are becoming less likely to use abortions to ensure the birth of sons rather than daughters.

This follows years of government efforts to curb sex selection – including a ban on prenatal sex tests and a massive advertising campaign urging parents to "save the girl child" – and coincides with broader social changes such as rising education and wealth.

HINDUS, SIKHS ACCOUNT FOR A DISPROPORTIONATE SHARE OF 'MISSING GIRLS'

How each group's share of India's population compares with its estimated share of sex-selective abortion of females between 2000 and 2019



3. Crime in India Report

News: The National Crime Records Bureau (NCRB) has released reports titled 'Crime in India' and 'Accidental Deaths and Suicides in India'.

Key Highlights of Accidental Deaths and Suicides in India Report, 2021

Suicides in 2021: 2021 saw the highest rate of deaths from suicide since 1967 (first year with recorded data) with 120 deaths per million population. This highlights the impact the pandemic on the emotional well-being of people.

State-wise: Maharashtra ranked 1st in number of reported suicides for the 3rd consecutive year.

Category-wise: The **daily wage earners** remained the largest profession-wise group among suicide victims, accounting for 25.6%.

The fastest increase in deaths by suicide was observed among students and small entrepreneurs supporting anecdotal accounts of prolonged stress induced by the pandemic.

Key Highlights from Crime in India (CII) Report, 2021

Crime against women: Cases of crime against women rose by ~15% from 2020. The crime rate registered per 100,000 women population is 64.5 in 2021 (56.5 in 2020).

A majority of cases under IPC were registered for 'cruelty by husband or relatives' (31.8%) followed by molestation (20.8%), kidnapping (17.6%) and rape (7.4%).

Uttar Pradesh and **Delhi** recorded the **highest number of crimes against women** among States and the metropolitan cities.

Nagaland reported the lowest number of crimes against women registered in the past 3 years.

Conviction rate in rape cases: The conviction rate in rape cases across India remained abysmally low at 24.8% in 2021 with only 156 cases convicted and around 22,313 cases currently under trial.

According to NCRB data, rape-murders make up less than 1% of the total rapes in the country annually.

Domestic Violence Act: Only 507 cases were registered in the country under the Domestic Violence Act in 2021: 0.1% of the total cases of crime against women. The highest number of cases (270) were filed in Kerala.

Dowry Deaths: Around 6,589 cases of dowry deaths were registered last year with the highest number of such deaths registered in UP and Bihar.

Cybercrime: These cases registered a 5.9% jump over 2020. This increase was more so in rural areas.

4. Foundational Learning Study, 2022

News: The Ministry of Education and the NCERT have released Foundational Learning Study, 2022.

About the Foundational Learning Study (FLS) 2022

FLS is a national report on benchmarking for **oral reading fluency** with **reading comprehension** and **numeracy**. Its aim is to provide reliable and valid data about Grade 3 students to know what they are able to do in foundational literacy and numeracy and the extent of the learning outcomes achieved.

FLS was carried out among 86,000 class 3 children in 10,000 schools in the country. The students were categorized as: **Lacking, Limited, Sufficient, Superior** Proficiency.

Key Findings of the Study

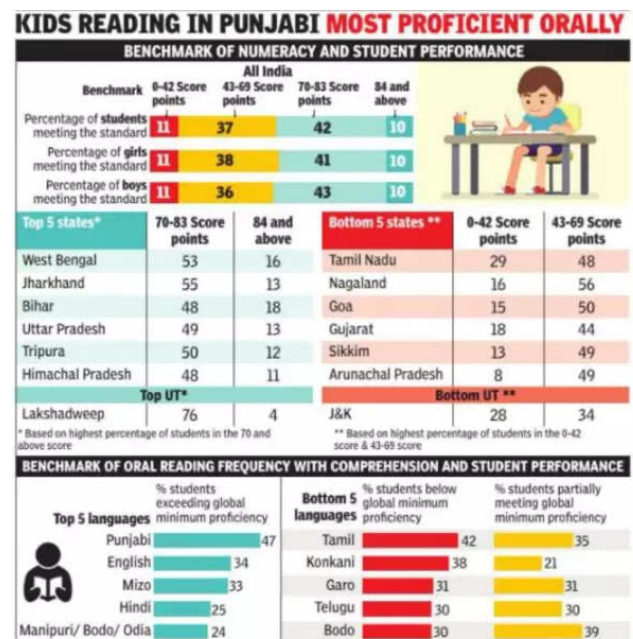
Languages: ~53% of class 3 students in 18 States surveyed for Hindi proficiency either lacked or had limited knowledge and skills in reading and comprehension.

Proficiency in regional languages such as Kannada, Marathi, Telugu, Malayalam etc. was poorer with 59% students either lacking or displaying limited skills.

Skills in Mathematics: Most basic knowledge and skills in numeracy were either lacking or limited in 48% of Class 3 students.

Among the States, Tamil Nadu was the worst performer with 77% of students either lacking or possessing only limited numeracy skills.

In 11 States, more than 50% students lacked or had limited skills with numbers.



5. Fall in Health Spending by Government: National Health Accounts (NHA) Estimates (2018-19)

News: The Ministry of Health and Family Welfare has released the findings of the National Health Accounts (NHA) Estimates for 2018-19.

About the National Health Accounts (NHA) Estimates 2018-19

It is the 6th consecutive NHA estimates report prepared by NHSRC. NHSRC has been designated as National Health Accounts Technical Secretariat (NHATS) by the Union Health Ministry in 2014.

It describes the country's total expenditure on healthcare, by the government, the private sector, NGOs and the individuals, and the flow of these funds.

Key Findings of NHA Estimates 2018-19

Health expenditure: Government spending as a percentage of total health expenditure increased by more than 11 percentage points over the previous five years, from 23.2% in 2013-14 to 34.5% in 2018-19.

However, government spending as a **proportion of the country's GDP** went down to 1.28% from 1.35% in the previous year's (2017-18) report.

The total health spending (by both government and non-government agents) declined from 3.9% of the GDP to 3.2% in 2018-19.

Out of Pocket expenditure: The Out-of-Pocket Expenditure (OOPE) as percentage of total health expenditure has declined substantially by 16% points, from 64.2% to 48.2%.

India's out-of-pocket expenditure continues to be high in comparison to other countries in the region. Out-of-pocket expenditure for the year 2018-19 stood at 2.87 lakh crore which was equivalent to 1.52% of the GDP. This means people spent much more than the government.

KEY NUMBERS IN REPORT

Indicator	2018-19	2017-18	2016-17	2015-16	2014-15
Total health expenditure as percentage of GDP	3.2	3.3	3.8	3.8	3.9
Government health expenditure as percentage of GDP	1.28	1.35	1.20	1.18	1.13
Out of pocket expenditure as %age of total expenditure	48.2	48.8	58.7	60.6	62.6
Government health expenditure as %age of total expenditure	40.6	48.8	32.4	30.6	29
Social security expenditure (govt insurance schemes like PM-JAY, RSBY, state scheme) as %age of total spend	9.6	9	7.3	6.3	5.7
Private health insurance expenditure as %age of total spend	6.6	5.8	4.7	4.2	3.7
Current health expenditure as percentage of total expenditure*	90.6	88.5	92.8	93.7	93.4

*A lower percentage indicates more spending on infrastructure, equipment etc that will last for years (National Health Accounts Estimates 2018-19)

6. PM SHRI Schools

News: The Union Cabinet has approved the PM SHRI Schools (PM Schools for Rising India) Scheme.

About the PM SHRI Scheme

It is a centrally sponsored scheme under the Ministry of Education. Its aim is to upgrade and develop more than 14500 schools across the country as PM SHRI Schools by strengthening select existing schools being managed by Union Government, State and UT Governments and the local bodies. These schools will also showcase all components of the National Education Policy 2020.

Key Features of PM SHRI Schools

PM SHRI schools will provide **high-quality education** in an equitable, inclusive and joyful environment. These schools will **provide leadership to other schools** in their respective regions by providing mentorship. The schools will be developed as **Green schools**. The focus will be on the learning outcomes of every child in every grade.

Linkage with Sector Skill Councils and local industry for enhancing employability and providing better employment opportunities will be explored.

A **School Quality Assessment Framework** (SQUAF) is being developed, specifying the key performance indicators to measure outcomes

The scheme would be implemented through the existing administrative structure available for **Samagra Shiksha**, KVS & NVS. The other autonomous bodies would be involved on a specific project basis as required. Selection of PM SHRI schools will be done through Challenge Mode wherein Schools compete for support to become exemplar schools.

Schools will be selected only if the State government agrees to implement the NEP in its entirety with the Centre.

More than 18 lakh students are expected to be direct beneficiaries of the scheme. Further, the impact will be generated through the mentoring and handholding of the schools in the vicinity of PM SHRI schools.

7. Focus on Eradication of Malnutrition: Prime Minister

News: The Prime Minister has pleaded to make eradication of malnutrition a people's movement. He stressed on the use of technology to create awareness.

Reasons for Malnutrition

The country's **vast public-distribution network has failed** to deliver to its potential.

The focus is on supplying primarily the belly-filling cereals rather than the whole range of food items to take care of the nutritional needs.

Another reason is **consumption of cheaper cereals** rather than the nutritious coarse grains like millets.

Findings of the UN and NFHS-5

The United Nations (UN) report titled '**State of Food Security and Nutrition 2022**' has indicated that even though the number of undernourished people in India has declined, the number of anaemic children and women including overweight people is still high.

The National Family Health Survey-5 had shown that **over half the children and women were anaemic**. The incidence of obesity was on the rise among both men and women.

Further course of action

The PM stressed on **increasing the consumption of millets**. A recent study points out that regular consumption of millets can **improve haemoglobin levels** and reduce anemia-causing iron deficiency.

Economy

1. Restructuring of Ministry of Commerce and Industry

News: The Ministry of Commerce and Industry has released the 'Department of Commerce Restructuring Dossier'.

Purpose

The aim is to prepare India to become a key global player in world trade.

Pillars

The restructuring rests on 5 major pillars: **(a)** Increasing India's share in global trade; **(b)** Assuming the leadership role in multilateral organizations; **(c)** Democratization of trade; **(d)** Creating 100 Indian Brands

as Global Champions; (e) Setting up Economic Zones in India to strengthen the manufacturing base and attract greater investments to India.

Steps planned for Restructuring

- (a) A **dedicated Trade Promotion Body** will be set up to drive the formulation & execution of the promotion strategy.
- (b) **Digitization** of trade facilitation processes.
- (c) A **Trade Intelligence & Analytics wing** is proposed to be set up for in-house analytics and dissemination capabilities. Trade Watch Tower within the wing will proactively identify market risks and opportunities.
- (d) **Capacity building** of Indian Trade Service to drive specialization & institutional memory.

2. Amendment to Right of Way (RoW) Rules

News: The Department of Telecommunications has released the Indian Telegraph Right of Way (Amendment) Rules, 2022.

Key Rules of the Indian Telegraph Right of Way (Amendment) Rules, 2022

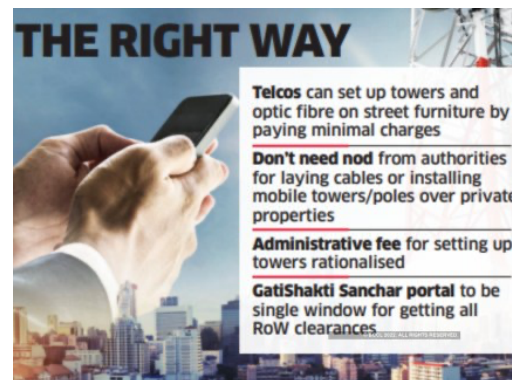
Telecom licensees can enter into an agreement with private property owners and will **not require any permission from any government authority** for installing telecom infrastructures such as towers, poles or optical fibre.

No administrative fee shall be charged by the Union Government for the establishment of poles on land owned and controlled by it. For State/UTs, this fee will be limited to INR 1,000 per pole. The fee for laying overground optical fibre shall be limited to INR 1,000/Km.

Telecom licensees will be able to **use street infrastructure** to deploy telecom equipment at a cost of INR 150/annum in rural areas and INR 300/annum in urban areas.

Telecom licensees shall **not be required to pay compensation** for land for the establishment of poles.

GatiShakti Sanchar portal will be the single window for getting all the Right of Way (RoW) clearances.



Significance of the Rules

The major challenges faced by the telecom sector are access to the existing infrastructure, deployment of new infrastructure and the high cost involved in it.

These rules will help in overcoming those challenges and will **ensure the speedy roll-out of the technology**.

3. India as the next SaaS Capital

News: The Confederation of Indian Industry (CII) and Ernst & Young (E&Y) have released a study titled "India: The Next Global SaaS Capital".

About Software-as-a-Service (SaaS)

Software-as-a-Service (SaaS) is a software licensing model in which access to the software is provided on a **subscription basis** with the software being **located on external servers** rather than on servers located in-house.

SaaS allows each user to **access programs via the Internet**, instead of having to install the software on the user's computer.

SaaS has many business applications, including file sharing, email, calendars, human resource and customer retention management.

SaaS is easy to implement, easy to update and debug and can be less expensive (or at least have lower up-front costs) since users pay for SaaS as they go instead of purchasing multiple software licenses for multiple computers.

Drawbacks to the adoption of SaaS center around **data security**, speed of delivery and lack of control.

Observations of the study say about the Indian SaaS market

India is poised to become the global SaaS capital over the next few years mainly driven by Small and Medium Businesses with a focus on large enterprises.

The Indian SaaS market is expected to grow multi-fold by 2025 accounting for almost 7 to 10% of the global SaaS market from 2-4% at present.

India now has 18 SaaS unicorns (only 1 in 2018) with the country being the third-largest SaaS ecosystem globally, after the USA and China.

4. Seizure of Fake Currency

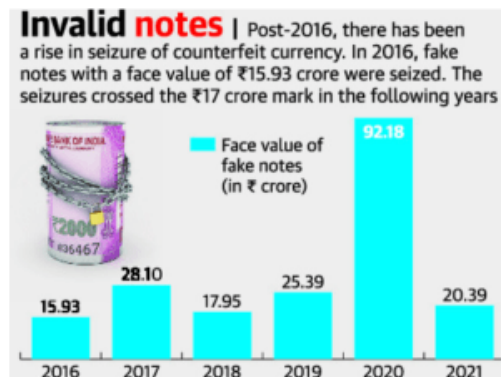
News: National Crime Records Bureau (NCRB) has released a report titled 'Crime in India 2021' Report.

Fake Money Circulation

Fake Money: Nearly 60% of all fake money seized in the year 2021 was of INR 2,000 denomination. Most of the fake INR 2,000 notes were recovered in Tamil Nadu, followed by Kerala and Andhra Pradesh.

Increase in the seizure of fake money: In 2016, the Government introduced new INR 2,000 and INR 500 currency notes after the old INR 500 and INR 1,000 notes were scrapped by them.

One of the primary objectives of this was to curb the circulation of Fake Indian Currency Notes (FICN). However, since 2016 there has been an increase in the seizure of fake money.



Steps taken by the Government to curb fake currency

Counterfeiting currency notes is an offense under the Indian Penal Code, 1860. The production, smuggling, or circulation of High-Quality Fake Indian paper currency, coins, or any other material has been made a **terrorist act** under the **Unlawful Activities (Prevention) Act, 1967**.

Ministry of Home Affairs has constituted a **Terror Funding and Fake Currency Cell** in the National Investigation Agency (NIA) to conduct a focussed investigation of terror funding and fake currency cases.

FICN Coordination Group (FCORD) has been formed by the Ministry of Home Affairs (MHA). It shares intelligence and information amongst the different security agencies of the States and the Center to counter the problem of circulation of fake currency notes in the country.

Training programs are conducted for the officers of Bangladesh and Nepal Police to develop their competence in the areas of detection, investigation, and effective prosecution of cases relating to fake currency.

5. Bulk Drug Parks

News: The Department of Pharmaceuticals has granted 'in-principle' approval to the proposals of 3 States (HP, Gujarat, Andhra Pradesh) under the scheme for Promotion of Bulk Drug Parks.

Rationale for the Scheme for Promotion of Bulk Drug Parks

Indian pharmaceutical industry is the 3rd largest in the world by volume and 14th largest in terms of value. India contributes 3.5% of total drugs and medicines exported globally.

Despite these achievements, India is **significantly dependent on the import** of some of the critical basic raw materials, viz., bulk drugs that are used to produce the finished dosage formulations.

India imports bulk drugs largely for economic considerations. Bulk drugs accounted for 63% of the total pharmaceutical imports in the country during 2018-19. Hence, to reduce these imports of Bulk Drugs, the scheme has been launched.

Objective of the Scheme

It was launched in 2020. Its objective is to provide **financial assistance** to 3 states for establishing Bulk Drug Parks and aims to bring down the cost of manufacturing bulk drugs by creating world-class common infrastructure facilities.

Key Features of the scheme

3 bulk drug parks will be supported under the Scheme.

Maximum grant-in-aid for one bulk drug park will be limited to INR 1,000 crore.

Under the scheme, a one-time grant-in-aid will be provided for the creation of common infrastructure facilities in selected Bulk Drug Park proposed by a State Government.

The scheme will be implemented through a State Implementing Agency (SIA), a legal entity, set up by the concerned State Government.

The grant-in-aid will be 70% of the project cost of the common infrastructure facilities (CIF). In the case of the North Eastern States and the Hilly States, the grant-in-aid will be 90% of the common infrastructure facilities.

6. Status Report on India's External Debt

News: The External Debt Management Unit (EMDU) under the Department of Economic Affairs, Ministry of Finance has released the Status Report on India's External Debt 2021-22.

Key Highlights from the Report

India's external debt rose by 8.2% to stand at US\$ 620.7 billion on March 31, 2022 (US\$ 573.7 billion on March 31, 2021). 53.2% of external debt was denominated in US dollars. Indian rupee-denominated external debt was estimated at 31.2%.

The long-term debt (maturity over 1 year) stood at US\$ 499.1 billion (80.4%) and short-term debt was US\$ 121.7 billion (19.6%).

Commercial Borrowings (CBs), NRIs deposits, short-term trade credit and multilateral loans accounted for around 90% of the total external debt.

External debt as a ratio to GDP fell marginally to 19.9% in March 2022 (21.2% in March 2021).

Foreign currency reserves as a ratio to external debt stood slightly lower at 97.8% in March 2022 (100.6% in March 2021).

Sovereign External Debt: As of March 2022, sovereign external debt (SED, owed by Union Government) increased by 17.1% to US\$ 130.8 billion.

Non-sovereign external debt has been estimated at US\$ 490.0 billion in March 2022. CBs, NRI deposits and short-term trade credit accounted for about 95% of non-sovereign debt.

Debt Service Ratio (DSR): The debt service ratio fell to 5.2% during 2021-22 from 8.2% during 2020-21 due to buoyancy in current receipts and a decline in debt service payments. (DSR indicates the ability to pay debt from the income).

Observations

India's external debt continues to be sustainable and prudently managed. From a comparative perspective, India's external debt is modest, occupying the 23rd position globally. In terms of various debt vulnerability indicators, India's sustainability was better than the Low-and-Middle Income Countries (LMICs) as a group and vis-à-vis many of them individually.

7. Parliamentary Committee Report on Metro Rail Projects

News: The Parliamentary Standing Committee on Housing and Urban Affairs has submitted a report titled 'Implementation of Metro Rail Projects' to the Lok Sabha.

Key Highlights from the Report

Low ridership: Most metro projects (except Delhi and Mumbai line 1) have seen lower actual average daily ridership than what is required to breakeven. These metro projects include Bengaluru, Hyderabad, Chennai, Lucknow, and Jaipur. The poor performance of metro projects indicates several things such as: **(a)** Lack of first and last mile connectivity; **(b)** Faulty detailed project reports; **(c)** Absence of parking at stations. Therefore, the Committee has recommended: **(a)** Ensuring ridership estimation (which determines the selection of the type of metro) is realistic and accurate; **(b)** Taking concrete steps to increase the ridership of all metro projects.

Law governing metro projects: As more cities are taking up metro projects, there is a need to have a comprehensive law for metro projects. Currently, metro projects are governed by three Central Acts. The Ministry of Housing and Urban Affairs had stated that it is drafting a Bill to replace the three existing Acts.

Unified Metropolitan Transport Authority (UMTA): State governments are required to constitute UMTAs for managing urban transport. Several states such as Karnataka, Gujarat, and Rajasthan have not constituted UMTAs. It recommended the Ministry to encourage the setting up of UMTAs in States.

Payment of fare via single card: The **National Common Mobility Card (NCMC)**, launched in March 2019, allows payment across different modes of public transport throughout India. Payment through a single card attracts customers towards public transport and increases ridership.

The Committee noted that **NCMC-compliant systems have not been installed** in Kolkata, Jaipur, Lucknow, Kanpur, Chennai, and Gujarat. It recommended the Ministry to take suitable steps to operationalise NCMC.

Sourcing of power from renewables: Metro networks such as Chennai, Hyderabad, Delhi, and Lucknow are adopting energy conservation measures. For instance, Kochi and Pune metro have planned to meet 60% of their energy requirements from solar power.

The Committee recommended the Ministry to encourage **mandatory sourcing of power from renewables**, especially solar, by metro networks.

8. India as 5th Largest Economy in the World

News: India has gone ahead of the UK to become the world's 5th largest economy.

About India becoming 5th-largest economy

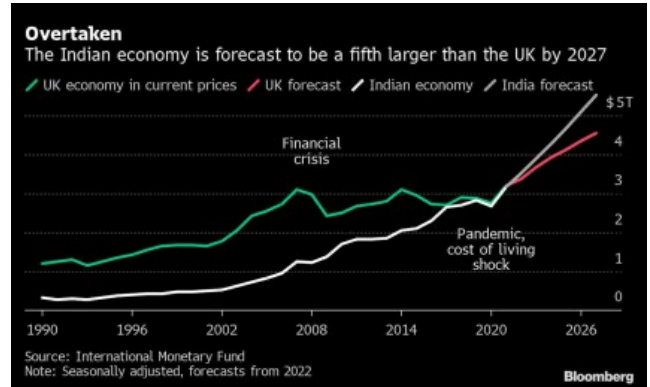
India has become the 5th-largest economy during the last three months of 2021 pushing the United Kingdom to the 6th spot.

This is the second time India has beaten the UK in terms of economy with the first one being in 1919.

India now trails behind the **United States, China, Japan** and **Germany** in terms of the size of the economy.

A decade ago, India's rank was 11th among the world's largest economies.

The Indian economy is forecast to grow more than 7% this year.



9. Urban Employment Scheme by the Rajasthan Government

News: The Government of Rajasthan has launched the Indira Gandhi Urban Employment Scheme.

About the Indira Gandhi Urban Employment Scheme

Its aim is to provide economic support to the poor and needy families living in the cities through work to be provided on **demand for 100 days in a year**.

Eligibility

Those in the age group of 18 to 60 years residing within the limits of urban local bodies are eligible to demand and get employment in the identified segments. There is **no income limit**, though the poor and destitute people, especially those who lost their livelihood during the pandemic, will be given preference.

Categories of Works

The tasks to be carried out under the scheme have been clubbed mainly under 8 heads. These include environment protection, water conservation, heritage conservation, removal of encroachments and illegal boards, hoardings and banners, stopping defacement of property and service-related works.

(Refer EPIC February 2022 for Employment Guarantee for the Urban Poor).

10. Creative Economy

News: EXIM Bank has released a study titled 'Reflection and Development of India's Creative Economy'. The study analyzed 7 creative segments like arts, audio visuals, design etc. to map their export potential.

About Creative Economy

The creative economy has no single definition. It is an evolving concept which builds on the interplay between **human creativity and ideas** and **intellectual property, knowledge and technology**.

It is the **knowledge-based economic activities** upon which the 'creative industries' are based.

The **creative industries** including advertising, architecture, arts and crafts, design, fashion, film, video, photography, music among others form the lifeblood of the creative economy.

About the Exim Bank Study on the Creative Economy in India

India's total exports of creative goods and services stood close to US\$ 121 billion in 2019, of which exports of creative services accounted for ~US\$ 100 billion.

In India, the contribution of the design segment was 87.5% of the total creative goods exports in 2019, and another 9% was contributed by the art and crafts segment.

Creative economy was significantly diversified and industries such as the entertainment sector give an important push to the creative economy. For instance, India ranks 6th globally outside the US with respect to the top international box office markets by revenue.

Recommendations to promote a Creative Economy in India

Creative economy in India must be promoted by: **(a)** Defining and mapping the creative industries in India; **(b)** Funding to finance creative industries; **(c)** Focusing on joint programmes; **(d)** Addressing the issue of copyrights; **(e)** Promoting Micro, Small and Medium Enterprises (MSMEs) and local artisans; **(f)** Establishing creative districts and hubs; **(g)** Forming a specialized institution for creative industries.

11. Decriminalizing Offences under Indian Boilers Act, 1923

News: The Government is set to decriminalize the Indian Boilers Act, 1923.

About the Indian Boilers Act, 1923

Indian Boilers Act, 1923 was enacted with the objective to provide mainly for the safety of life and property of persons from the danger of explosions of steam boilers. It was also aimed at achieving uniformity in registration and inspection during the operation and maintenance of boilers in India.

Key Proposed Changes

- (a)** Decriminalize the Boilers Act by removing the provision for a two-year jail time for violation of the rules.
- (b)** Easing the rules by extending the duration of licenses and cutting the frequency of inspections.

Impact of the Amendments

A boiler is an essential tool for a number of industries including power plants, government factories, sugar, textile, feed, auto rice mills and the pharmaceutical industry.

Hence, these proposed changes will help improve the ease of doing business in the country and reduce litigation.

International Relations

1. India's G20 Presidency

News: India will assume the Presidency of G20 in 2023 and host the Summit in September in New Delhi.

About India's G20 Presidency

India will assume the Presidency of the G20 for 1 year from December 2022 to November 2023. Under its Presidency, India is expected to host over 200 G20 meetings across the country, beginning in December 2022. The G20 Leaders' Summit at the level of Heads of State/Government is scheduled to be held on 9-10 September 2023 in New Delhi.

About G20 Troika

India is currently part of the G20 Troika which comprises the current, previous and incoming G20 presidencies. The present Troika includes Indonesia, Italy and India. During India's presidency, the troika will include Indonesia, India and Brazil. This will be the first time that the troika will consist of 3 developing countries and emerging economies providing them with a greater voice.

Guest countries invited by India as G20 Presidency

In addition to G20 Members, there has been a tradition of the G20 Presidency inviting some Guest countries and International Organizations (IOs) to its G20 meetings and summits.

India will be inviting Bangladesh, Egypt, Mauritius, Netherlands, Nigeria, Oman, Singapore, Spain and UAE as Guest countries.

ISA (International Solar Alliance), CDRI (Coalition for Disaster Resilient Infrastructure) and ADB (Asian Development Bank) will also be invited as Guest IOs.

2. India's Statement in UNHRC on Sri Lanka's Tamil Issue

News: India has called Sri Lanka out at the United Nations Human Rights Council (UNHRC) for lack of measurable progress on its commitments to a political solution to the ethnic Tamil minority issue.

Statement given by India at UNHRC

India has voiced concern over the lack of measurable progress through full implementation of the **13th Amendment of the Constitution** (of Sri Lanka). India made this statement at the 51st session of the United Nations Human Rights Council in Geneva.

About the 13th Amendment to the Sri Lankan Constitution

It is an outcome of the **Indo-Lanka Accord** (July 1987) signed by then Prime Minister Rajiv Gandhi and President J.R. Jayawardene in an attempt to resolve Sri Lanka's ethnic conflict.

The amendment led to the **creation of Provincial Councils** and assured a power-sharing arrangement to enable all 9 provinces in the country, including Sinhala majority areas to self-govern.

Subjects such as education, health, agriculture, housing, land and police are devolved to the provincial administrations but because of **restrictions on financial powers** and overriding powers given to the President, the provincial administrations have not made much headway.

Significance of India's Statement

India's statement comes ahead of a resolution on Sri Lanka that will likely face a vote at the UNHRC. Since 2009, India has voted thrice in favour of the U.N. resolution on Sri Lanka; two were critical and abstained twice, in 2014 and 2021.

India has consistently underscored the **need for a political settlement** within the framework of a united Sri Lanka, ensuring justice, peace, equality and dignity for the Tamils of Sri Lanka.

Issues faced by Sri Lankan Tamils

Sri Lanka's human rights activists have flagged concerns over persisting **militarisation**, especially in the Tamil-majority North and East; **repression** and the **shrinking space for dissent**. In the latest report on Sri Lanka, the U.N. Human Rights Chief said that embedded impunity for past and present **human rights abuses, economic crimes** and corruption were among the underlying factors that led to the country's devastating economic crisis.

3. Visit of the French Foreign Minister to India

News: The French Foreign Minister recently visited India.

Key Highlights from her visit

On Indo-Pacific: India and France have agreed to work towards the establishment of an **Indo-Pacific trilateral framework**. As part of this, they will hold **separate trilateral ministerial meetings** with **Australia** and the **United Arab Emirates** (UAE).

India and France have agreed to work towards the establishment of an **Indo-Pacific Trilateral Development Cooperation Fund** that will support sustainable innovative solutions for countries in the region.

On Cultural Contact: India and France are launching a scheme for the exchange of young professionals in the age group of 18 to 35 years as a follow-up to the migration and mobility partnerships.

India will be the **first 'country of honour'** at the Sea Tech Week in Brest, France, a major international event bringing together blue economy stakeholders.

The two countries welcomed the launch of **India's Unified Payment Interface (UPI) in France**.

On Defense Cooperation: Indian and France welcomed the Safran Group, a French multinational company, that decided to set up their **largest and 1st aircraft engine MRO** (Maintenance Repair Overhaul) facility in Hyderabad.

4. Visit of the Prime Minister of Bangladesh to India

News: The Prime Minister of Bangladesh recently visited India.

Agreements made during her Visit

There were multiple focus areas: **(a)** Water sharing agreement (first in 26 years); **(b)** Free trade agreement talks and **(c)** infrastructure projects especially in the railways sector.

Kushiyara River Agreement: The **water sharing agreement on the Kushiyara River** is important for resolving water problems. It is one of the important issues of **54 trans-boundary rivers** and for the 1st time Assam and other north-eastern States have been brought on board.

Feni Reiver: There has also been agreement on withdrawing 1.82 cusec water from the Feni River.

Teesta River: There has been still **no agreement on Teesta**, which is held up by the West Bengal government. The agreement will require more effort from the Central and the state government.

Special Economic Zones: Bangladesh's PM has also mentioned of two dedicated Special Economic Zones for Indian companies in Mongla and Mirsarai in Bangladesh. It will help to attract FDIs inflows from India in Bangladesh.

5. Recruitment of Gorkha Soldiers in Indian Army

News: Nepal has postponed scheduled rallies to recruit Gorkha Soldiers for the Indian Army under the *Agnipath* Scheme. The Government of Nepal is of the opinion that the new scheme for recruitment is not covered under the Tripartite Agreement.

About the Tripartite Agreement

This agreement was signed between the **Governments of India, Nepal and the UK** in 1947 regarding the future of Gorkha soldiers who were serving in the Indian army. According to the Agreement, 4 regiments of Gorkha soldiers (2nd, 6th, 7th, and 10th) were transferred to the British Army. Whereas the remaining (1st, 3rd, 4th, 5th, 8th, and 9th) regiments remained with the Indian Army.

The Agreement also **provides for the terms and conditions, post-retirement benefits, and pensions of Nepal domiciled Gorkha soldiers** in the Indian Army.

Relationship between India and Nepalese Gorkhas

The Gorkha soldiers from Nepal serve side by side with Gorkha soldiers who are born and brought up in India and are not considered mercenaries.

The **Geneva Convention of 1949 defines mercenary**. It says that soldiers serving in sovereign armies are not considered mercenaries.

There have been attempts to reduce the dependence on Nepal for Gorkha soldiers in the Indian Army in order to strike a balance between India and Nepal domiciled troops. A pure Indian Gorkha battalion was raised in 2016 in Subathu, Himachal Pradesh.

The ratio of Nepalese domiciled soldiers and Indian domiciled soldiers in a Gorkha battalion ranges from 60:40 to 70:30, and it is expected to change in the future.

A change was made in the recruitment rules of the Gorkha rifles after the Army decided that soldiers hailing from Kumaon and Garhwal regions of Uttarakhand will also be eligible to serve in Gorkha Rifles.

Importance of Gorkhas in Indian Army for Nepal

A research paper from 2020 titled '**The Gurkha Recruitment, Remittances and Development**' by Ratna Mani Nepal states that the remittances from Gorkhas serving in foreign armies have significantly contributed to **social modernization in the isolated villages in Nepal**. The financial remittances have also encouraged entrepreneurship development which helps in regional development.

Science and Technology

1. India's First Private Space Situational Observatory

News: India's first commercial Space Situational Awareness (SSA) Observatory will be set up in the Garhwal region of Uttarakhand.

About India's First Private SSA Observatory

It will be set up by Digantara, a Bengaluru-based space sector start-up. It will be located in the Garhwal region of Uttarakhand.

The observatory will assist in **tracking any activity in space** including that of space debris and military satellites hovering over the region. The observatory will help to monitor events occurring in the geo-stationary, medium-Earth, and high-Earth orbits. The high-quality observations made will be complemented by observations of its partner ground-based sensor network.

With this data, India would be able to reduce the potential for collisions between satellites and other spacecraft by making more accurate predictions of their location, speed, and trajectory.

Significance

The observatory will fill the crucial gap in SSA observations in the region as there is a lack of such facilities between Australia and Southern Africa. It will also give India indigenous capabilities to monitor space activity over the subcontinent providing a strategic advantage.

Space Situational Awareness (SSA)

Space Situational Awareness (SSA) refers to the knowledge of the space environment, including the location and function of space objects and space weather phenomena.

SSA is generally understood as covering three main areas: **(a)** Space Surveillance and Tracking (SST) of man-made objects; **(b)** Space Weather (SWE) monitoring and forecast; **(c)** Near-Earth Objects (NEO) monitoring (only natural space objects).

2. CRISPR Technology

News: In the 10 years since the CRISPR technology has been developed, it has begun to deliver on its unlimited potential which will help in improving the quality of human life.

About CRISPR Technology

CRISPR is short for Clustered Regularly Interspaced Short Palindromic Repeats. It is a powerful **gene editing technology** which replicates natural defense mechanisms in bacteria to fight virus attacks using a special protein called Cas9.

CRISPR-Cas9 technology behaves like a **cut-and-paste mechanism on DNA strands** that contain genetic information.

The **specific location of the genetic codes** that need to be changed, or edited, is identified on the DNA strand, and then, using the Cas9 protein, which acts like a pair of scissors, that **location is cut off from the strand**. A DNA strand, when broken, has a natural tendency to repair itself. Scientists intervene during this auto-repair process, supplying the desired sequence of genetic codes that binds itself with the broken DNA strand.

Applications of CRISPR Technology

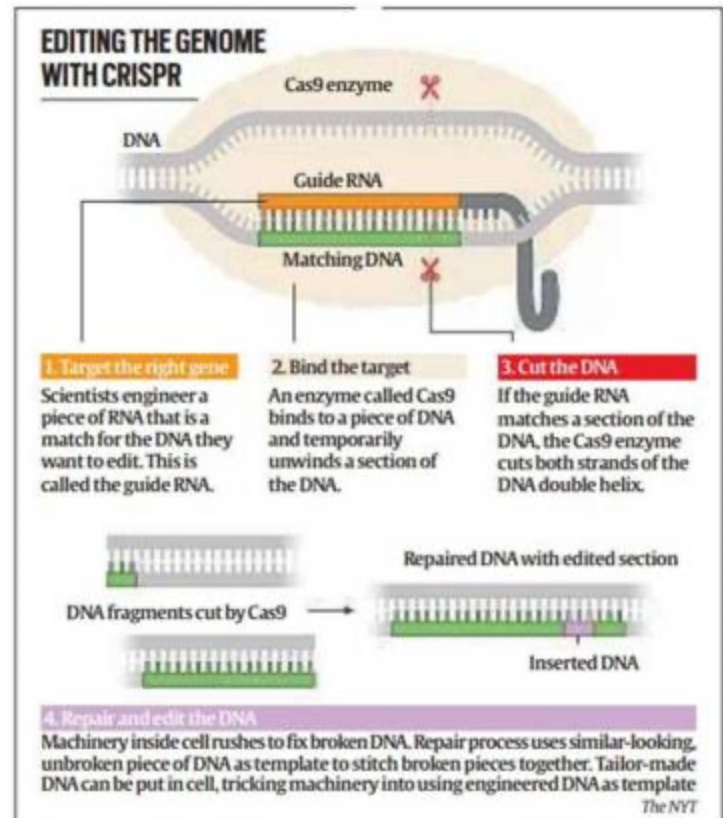
It has many potential applications, including **correcting genetic defects, treating and preventing the spread of diseases, and improving the growth and resilience of crops.**

Health: Several therapeutic interventions using CRISPR for diseases like thalassaemia or sickle cell anaemia have gone into clinical trials (US). The initial results have been flawless. In India, researchers at CSIR's Institute of Genomics and Integrative Biology have indigenously developed a CRISPR-based therapeutic solution for sickle cell anaemia, which is now being readied for clinical trials.

Agriculture: Japan has approved the commercial cultivation of a tomato variety that has been improved using CRISPR-based intervention. In India, several research groups are working on CRISPR-based enhancements for various crops including rice and banana.

Ethical Concerns

In 2018, a Chinese researcher disclosed that he had altered the genes of a human embryo to prevent the infection of HIV. This was the first documented case of creating a '**designer baby**'. This is concerning because the changes were made in the embryo. This means the newly acquired traits were likely to be passed to future generations. CRISPR is not 100% precise and could induce a few errors as well, making changes in other genes. This has the possibility of being inherited by successive generations.



3. Launch Window for the Spacecraft

News: The launch of Artemis I mission has been delayed multiple times. The Spacecraft generally get a limited launch window due to several factors.

Launch windows for space missions

Space missions cannot be launched anytime they are ready to go. Very precise time slots are calculated for their launch. There are two multiple factors.

Shortest Distance: Nothing in space is stationary. The origin (Earth) is moving, and so is the destination (like the Moon, or any other planetary body the mission spacecraft is headed to). Hence, one reason for scheduling a launch window is to look for the shortest distance to the destination.

Fuel Efficiency: The other related reason is the need for fuel efficiency. There is no refuelling opportunity in space. And, the more fuel the rocket carries, the heavier it becomes, which again means more fuel is required to propel it.

Weather: A space mission cannot be launched if the temperature is too cold or too hot or if the wind is blowing at a very strong speed. Rainfall, humidity, lightning, cloud or smoke are all factors that need to be considered for a safe and successful launch. Favorable weather conditions are required not just at the time of the launch, but also during the fuelling of the engines.

4. Anti-Radiation Pills

News: The EU has decided to supply 5.5 million anti-radiation pills to Ukraine. The pill will be distributed among the residents in the vicinity of the Zaporizhzhia nuclear power plant.

About Radiation Emergency

These are unplanned/accidental events that create radio-nuclear hazards to humans and environment. Such situations involve radiation exposure from a radioactive source and require prompt intervention to mitigate the threat. Dealing with such an emergency also involves the use of anti-radiation tablets.

Anti-radiation pills

Potassium iodide (KI) tablets, (anti-radiation pills), are known to provide some protection in cases of radiation exposure. They contain non-radioactive iodine and can help block absorption, and subsequent concentration, of radioactive iodine in the thyroid gland.

After a radiation leak, radioactive iodine floats through the air and contaminates food, water and soil. While radioactive iodine deposited during external exposure can be removed using warm water and soap, the bigger risk is inhaling it.

The thyroid gland uses iodine to produce hormones to regulate the body's metabolism. It has no way of telling radioactive from non-radioactive iodine.

Potassium iodide (KI) tablets rely on this to achieve 'thyroid blocking'. KI pills taken a few hours before or soon after radiation exposure ensure that non-radioactive iodine in the medicine is absorbed quickly to make the thyroid "full" and reduces absorption of radioactive iodine. But KI pills are preventive only and cannot reverse any damage done by radiation to the thyroid gland.

5. Indigenously Developed Fuel Cell Bus

News: The Union Minister for Science and Technology has launched India's first indigenously developed Hydrogen Fuel Cell Bus.

About Hydrogen Fuel Cell Bus

It has been developed by the Council of Scientific and Industrial Research (CSIR) and private firm KPIT Limited. The fuel cell utilizes Hydrogen and Air to generate electricity to power the bus and the only effluent from the bus is water, therefore making it possibly the most environmentally friendly mode of transportation.

Advantages of fuel cells

Lower Cost: Fuel cells have high energy density and efficiency. It ensures that the operational costs (in INR/km) for fuel cell trucks and buses are lower than diesel-powered vehicles. This can revolutionize freight transportation.

Zero Greenhouse gas emissions: Fuel Cell vehicles also give zero greenhouse gas emissions. For comparison, a single diesel bus plying on long-distance routes typically emits 100 tons of CO₂ annually.

Excellent means to eliminate on-road emissions: About 12-14% of CO₂ emissions and particulate emissions come from diesel-powered heavy commercial vehicles. These are decentralized emissions and difficult to capture. Hence, hydrogen-fuelled vehicles provide an excellent means to eliminate the on-road emissions from this sector.

Environment

1. Arctic Amplification

News: A recent study points that the Arctic is heating four time faster than the rest of the planet. This effect has wide ranging impact including on Monsoons. Scientists have termed it Arctic Amplification.

About Polar and Arctic amplification

Global warming has hastened due to anthropogenic forces or human activities since pre-industrial times and has increased the planet's average temperature by 1.1°C.

Polar amplification: Any change in the **surface air temperature** and the **net radiation balance** tends to produce larger changes at the north and south poles. This phenomenon is known as polar amplification

Arctic amplification: The above changes are **more pronounced in the northern latitudes** than in the southern latitudes. This is known as Arctic amplification.

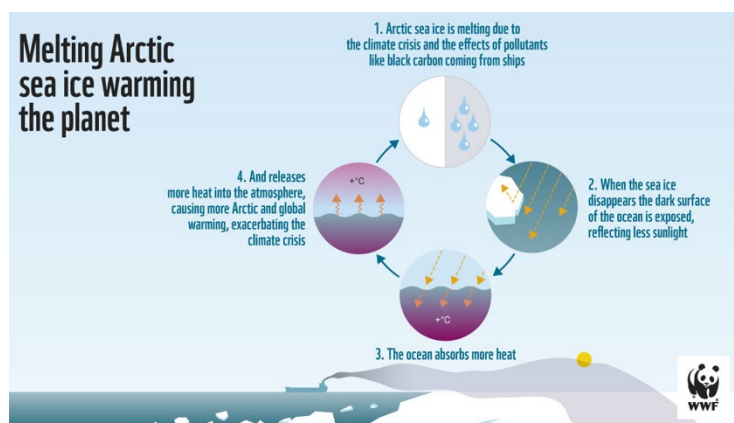
The warming is more concentrated in the Eurasian part of the Arctic, where the Barents Sea north of Russia and Norway is warming at a rate **7 times faster than the global average**. This is affecting the monsoons and climate conditions around the world.

Causes of Polar and Arctic amplification

Primary causes: Ice-albedo feedback, lapse rate feedback, water vapour feedback and ocean heat transport. Among these, the ice-albedo feedback and the lapse rate feedback are responsible for 40% and 15% of polar amplification respectively.

Ice-albedo feedback: Sea ice and snow have high albedo, implying that they are capable of reflecting most of the solar radiation compared to water and air. Global warming is resulting in diminishing sea ice. As the sea ice melts, the Arctic Ocean will be more capable of absorbing solar radiation.

Lapse rate feedback: The lapse rate (the rate at which the temperature drops with elevation decreases with warming).



Consequences of Arctic Amplification

The causes and consequences of Arctic amplification are cyclical, which means that **a cause can be a consequence too**.

Melting of Greenland ice sheet: Greenland's old and thicker ice sheets are getting replaced by young and thinner ice sheets. In 2019, the melting of this icesheet was the single biggest cause for the rise in the sea level, about 1.5 metres. Complete melting of Greenland ice sheet will raise sea level by 7m.

Note: The Greenlandic ice sheet holds the 2nd-largest amount of ice, after Antarctica.

Impact on biodiversity: The warming of the Arctic Ocean results in the **acidification of water** by changing the salinity levels. This impacts biodiversity, including the marine species and the dependent species. It also increases the amount of rainfall. This affects the availability and accessibility of lichens to the reindeer. This is causing widespread starvation and death among the Arctic fauna.

Impact on permafrost: The thawing of permafrost in the Arctic is releasing carbon and methane which are among the major greenhouse gases responsible for global warming. The melt will also release the long-dormant bacteria and viruses that were trapped in the permafrost and can potentially give **rise to diseases**.

Impacts of Arctic amplification on India?

Arctic ice and Indian monsoon: A study found that the reduced sea ice in the Barents-Kara sea region can lead to **extreme rainfall events in the latter half of the monsoons in India**. The changes in the atmospheric circulation due to diminishing sea ice combined with the warm temperatures in the Arabian Sea contribute to enhanced moisture and drive extreme rainfall events.

Arctic ice and sea level rise: According to the World Meteorological Organization's report, the sea level along the Indian coast is rising faster than the global average rate. One of the primary reasons for this rise is the melting of sea ice in the polar regions, especially the Arctic.

2. Arth Ganga: Government's New Model for Sustainable Development of Ganga

News: Director General of National Mission for Clean Ganga spoke about the Arth Ganga Model during the Stockholm World Water Week 2022.

About Arth Ganga

In 2019, PM first introduced the concept of Arth Ganga during the first National Ganga Council meeting in Kanpur where he urged for a shift from *Namami Gange* (cleaning of Ganga) to the model of Arth Ganga. The Arth Ganga focuses on the **sustainable development of the Ganga** and its surrounding areas, by focusing on economic activities related to the river. The Arth Ganga model seeks to use economics to bridge people with the river. It strives to contribute at least 3% of the GDP from the Ganga Basin itself.

Features

Under Arth Ganga, the government is working on 6 verticals

- (a) Zero Budget Natural Farming:** It involves chemical-free farming on 10 km on either side of the river, and the promotion of cow dung as fertilizer through the **GOBARDhan** scheme.
- (b) Monetization and Reuse of Sludge & Wastewater:** It seeks to reuse treated water for irrigation, industries and revenue generation for Urban Local Bodies (ULBs).
- (c) Livelihood Generation Opportunities** by creating *haats* where people can sell local products, medicinal plants and ayurveda.
- (d) Increase public participation** by increasing synergies between the stakeholders involved with the river.
- (e) Promote the cultural heritage and tourism of Ganga** and its surroundings, through boat tourism, adventure sports and conducting yoga activities.
- (f) Promote institutional building** by empowering local administration for improved water governance.

3. 'Getting India to Net Zero' Report

News: The High-Level Policy Commission on Getting Asia to Net Zero has released a report titled 'Getting India to Net Zero'.

About the High-Level Policy Commission on Getting Asia to Net Zero

The High-Level Policy Commission on Getting Asia to Net Zero was constituted by Asia Society Policy Institute, a New York-based think tank. Its aim is to urgently accelerate Asia's transition to net zero emissions while ensuring that the region thrives and prospers through this transition.

Key Findings of the Report

Net Zero by 2070: India's transition to net zero by 2070 could boost annual GDP by 4.7% by 2036 and create 15 million new jobs by 2047. But India will require an investment of US\$ 10.1 trillion from now to achieve its net-zero emissions target by 2070.

Net zero by 2050: If India's net zero ambition is brought forward to 2050, annual GDP gains could reach 7.3% and can create nearly 20 million additional jobs by 2032. For this, India will require an investment of US\$ 13.5 trillion.

Impact of ending coal use: Ending new coal as soon as possible by 2023 and transitioning from unabated coal power by 2040 would be particularly impactful to get India to net zero emissions sooner.

The report acknowledged the significant resources needed for India to transition to a clean economy and the foremost challenge being finance. If finance is not available, there would be a significant strain on the domestic economy.

4. Battery Waste Management Rules, 2022

News: The Ministry of Environment has notified the Battery Waste Management Rules, 2022.

About the Battery Waste Management Rules, 2022

The aim is to ensure environmentally sound management of waste batteries. These rules will replace the Batteries (Management and Handling) Rules, 2001. The rules cover all types of batteries, viz. Electric Vehicle batteries, portable batteries, automotive batteries and industrial batteries.

Key Provisions

Extended Producer Responsibility(EPR): Producers (including importers) of batteries are responsible for the collection and recycling and refurbishment of waste batteries. The rules enable the setting up of a mechanism and centralized online portal for the exchange of Extended Producer Responsibility (EPR) certificates.

Polluter Pay Principle: Environmental compensation will be imposed for non-fulfilment of EPR targets. The funds collected under environmental compensation shall be utilized in the collection, refurbishing or recycling of uncollected and non-recycled waste batteries.

Industries for waste Batteries: Promote setting up of new industries and entrepreneurship in collection and recycling and refurbishment of waste batteries.

Use of recycled materials for new batteries: The rules prescribe the use of a certain amount of recycled materials in the making of new batteries.

Monitoring the implementation of rules: The rules prescribe online registration, reporting, auditing, and monitoring the implementation of rules and taking measures required for removal of difficulties.

Significance

- (a) Sustainable management of battery waste would increase India's push for electric vehicles.
- (b) The rules will bring new technologies and investment in recycling and refurbishment.
- (c) It will help reduce the dependency on new raw materials and save natural resources.

5. Greening of India's Coal Sector

News: The Ministry of Coal has taken several initiatives to support India's Climate Targets.

Greening Initiatives of India's Coal Sector

The coal industry is aiming to promote a sustainable model of development. To fulfil this aim, coal production will be coupled with the **protection of the environment, conservation of natural resources, care for society, and measures to protect forests and wildlife.**

Initiatives taken

To achieve this, the Ministry of Coal has set a goal for coal companies **to bring more than 2,400 hectares of the area in and around coalfields under green cover** with the planting of more than 50 lakh saplings for the year 2022-23.

The identified areas include **reclaimed mined-out areas** of coal companies and **areas outside of leasehold** amenable for plantation and made available by State Government agencies.

The greening initiatives of the coal sector will support India's NDC commitment to creating an additional carbon sink of 2.5 to 3 billion tonnes of CO₂ equivalent through additional forest and tree cover by 2030.

6. State of Climate Report

News: The 32nd Annual State of Climate Report has been released.

About the State of the Climate Report

The report has been compiled by **National Oceanic and Atmospheric Administration** (NOAA) and published by the American Meteorological Society (AMS). The report provides a comprehensive update on global climate and points out **2021 as a year of extremes and rapid swings** bringing both record highs and lows.

Key Findings of the Report

Greenhouse Gas (GHG) concentrations are the **highest in 2021.**

Year 2021 was among the six warmest years. The last 7 years (2015-2021) have been the hottest years on record.

Sea Levels: Sea levels rose for the tenth year in a row. They reached a new record of 3.8 inches or 97 millimetres above the average for 1993 when satellite measurements began.

Antarctica: Antarctica has been **losing 140-160 billion tons of ice each year** since 1993. In 2021, it only lost 50 billion tons because the continent also experienced an unusually high number of extreme weather events that brought large dumps of snow to inland areas.

Arctic: The Arctic had its coolest year since 2013, but 2021 was still the 13th warmest year in the 122-year record.

La Niña: La Niña conditions that began in mid-2020 continued for most of 2021. The annual global sea surface temperature in 2021 was lower than both 2019 and 2020 due in part to La Niña but was still higher than the 1991-2020 average.

Tropical Cyclones: There were around 97 tropical cyclones in 2021 above the 1991-2020 average of 87.

History, Art and Culture

1. Mandala Art

News: A spectacular 'Mandala' Art installation was unveiled in a field in Liverpool, UK.

About Mandala

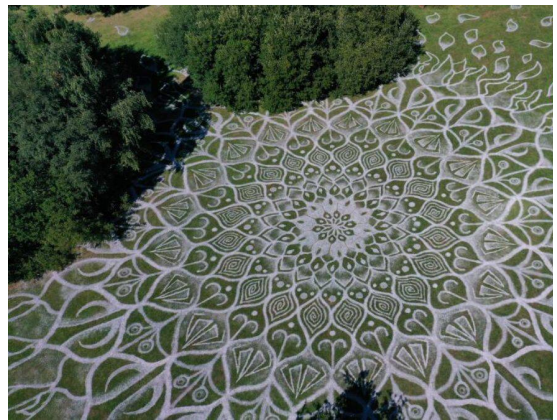
Mandala literally means '**circle**' or '**centre**' in Sanskrit. It is defined by a geometric configuration that usually incorporates the circular shape in some form. Mandala patterns are a centuries-old motif that is used to **depict the cosmos**. It can also be created in the shape of a square. But a mandala pattern is essentially interconnected.

Origin of Mandala Art

It is believed to be rooted in **Buddhism**, appearing in the 1st century BC in India. Over the next couple of centuries, Buddhist missionaries travelling along the silk road took it to other regions. In **Hinduism**, the mandala imagery first appeared in **Rig Veda (1500 – 500 BCE)**.

Meaning of Mandala motifs

It is believed that by entering the mandala and moving towards its center, one is guided through the cosmic process of transforming the universe from one of suffering to that of joy. In Hinduism, a mandala or yantra is in the shape of a square with a circle at its centre.



Elements in Mandala Art

There are various elements incorporated within the mandala, each of which has its own meaning.

The 8 spokes of the wheel (the *dharmachakra*) represent the eightfold path of Buddhism, the lotus flower depicts balance, and the sun represents the universe.

Facing up, triangles represent action and energy, and facing down, they represent creativity and knowledge.

Mandala in Modern Art

Mandala continues to appear in **Thangka paintings**. But it also has a central place in the practice of mainstream artists associated with the tantric and neo-tantric spiritual movements.

In the 1960s Sohan Qadri and Prafulla Mohanty gained widespread recognition for their works that were imbued with tantric symbolism, such as mandalas that are also used in the rituals of tantric initiation.

Geometric compositions also dominated the works of artists such as Biren De, GR Santosh, Shobha Broota, and famously SH Raza, who visualized the Bindu as the centre of his universe and the source of energy and life.

2. Garba Nominated to UNESCO Intangible Cultural Heritage

News: India has nominated Garba to be inscribed on UNESCO's Intangible Cultural Heritage List.

About Garba

Garba is a form of dance which originates from the state of Gujarat in India. Traditionally, it is performed during the nine-day festival Navarātrī.

The word *garba* comes from the Sanskrit word for womb and so implies gestation or pregnancy, life.

Traditionally, the dance is performed around a clay lantern with a light inside, called a *Garbha Deep* ('womb lamp'). This lantern represents life and the fetus in the womb in particular. The dancers thus honour **Durga**, the feminine form of divinity.

Garba is performed in a circle **reflecting the cycle of life**. As the cycle of time revolves from birth, to life, to death and again to rebirth, the only thing that is constant is the Goddess, the idol of whom is placed stationary.



3. Acculturation

News: India, with its distinctive fusion of various cultures, has ideals that provide a deeper understanding of the concept of acculturation and its outcomes.

About Acculturation

The concept of acculturation was coined in 1880 by American geologist John Wesley Powel in a report for the U.S. Bureau of Ethnology. It is defined as the process in which a person or group from one culture comes in contact with another culture, **adopting the values and practices of the other while still retaining their own distinct identity**. Sociologists understand acculturation as a two-way process, wherein the **minority culture adopts aspects of the majority to fit in** and the culture of the majority is also influenced by that of the minority.

Relevance of Acculturation in the Indian context

India's distinctive fusion of various cultures helps significantly in understanding the concept of acculturation and its outcomes. For instance:

- (a) Persian culture has influenced almost all aspects of Indian society; the origins of popular food items like biryanis and faloodas and spices like saffron, and cumin seeds trace back to Persian origins.
- (b) The Urdu language, a blend of Arabic, Persian, Turkish and Hindi, is an example of the amalgamation and transmutation of cultures.
- (c) The architectures of Christian Churches in Kerala like the Cheriapally (small church) in Kottayam or the Pazhaya Suriyani Pally (old Syrian church) in Chengannur have marks of Hindu Temple architectural styles.

4. UNESCO Global Network of Learning Cities (GNLC)

News: Warangal (Telangana), Thrissur and Nilambur (both Kerala) have joined the UNESCO Global Network of Learning Cities (GNLC)

About UNESCO Global Network of Learning Cities (GNLC)

It is an international network consisting of cities that successfully promote lifelong learning across their communities. The network supports the achievement of all 17 Sustainable Development Goals (SDGs) in

particular SDG 4 ('Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all') and SDG 11 ('Make cities and human settlements inclusive, safe, resilient and sustainable').

Features of a Learning City

There are 6 features that define a learning city. These include cities that: **(a)** Effectively mobilize their resources in every sector to advocate inclusive learning; **(b)** Revitalizes learning in families and communities; **(c)** Facilitate learning for and at workplaces; **(d)** Extend the use of modern learning technologies; **(e)** Augments quality and excellence in learning; **(f)** Fosters a culture of learning throughout life.

Inclusion of Warangal, Thrissur and Nilambur

Thrissur: Popularly known as the cultural capital of Kerala. Thrissur is home to academic and research institutions. It is also known for its jewellery industry, especially gold. The city has been included because of its initiatives focusing on vulnerable groups.

Warangal: It has a rich cultural heritage. The city is a major tourism venue. The city has been included for its good practices such as advocating healthy environments for children and caregivers, free training for the transgender community and self-help groups.

Nilambur: It is an ecotourism destination in Kerala. It is a city with various socio-economic patterns marked by an urban and rural mix. The majority of the population depends on agriculture and allied industries.

Miscellaneous

1. Flash Floods

News: The Monsoon Season witnessed several instances of flash floods.

About Flash Floods

According to the National Weather Service (the US), Flash floods refer to the flooding that begins within 6 hours and often within 3 hours, of the heavy rainfall (or other cause).

Flash Floods can be caused by a number of things, but is most often due to extremely heavy rainfall from thunderstorms. Flash Floods can occur due to Dam or Levee Breaks, and/or Mudslides (Debris Flow).

In India, flash floods are often associated with cloudbursts – sudden, intense rainfall in a short period of time. (Refer EPIC July 2022 for The Phenomena of Cloudbursts).

Occurrence of Flash Floods

The intensity of the rainfall, the location and distribution of the rainfall, the land use and topography, vegetation types and growth/density, soil type, and soil water-content all determine how quickly the Flash Flooding may occur, and influence where it may occur.

Flash flooding commonly happens more where **rivers are narrow and steep**, so they flow more quickly.

They can also occur in **urban areas located near small rivers** since hard surfaces such as roads and concrete do not allow the water to absorb into the ground.

Flash Floods in India

India is the worst flood-affected country in the world after Bangladesh and accounts for ~20% of the global death count due to floods. Flash floods have been commonly witnessed in cities like Chennai and Mumbai. Depression and cyclonic storms in the coastal areas of Orissa, West Bengal, Andhra Pradesh and others also cause flash floods.

Reason for Flash Floods in India

According to National Disaster Management Authority data, one of the reasons for flood situations occurring so frequently is that nearly 75% of the total Indian rainfall is concentrated in a short monsoon season of four months (June to September). As a result, the rivers witness a heavy discharge during these months.

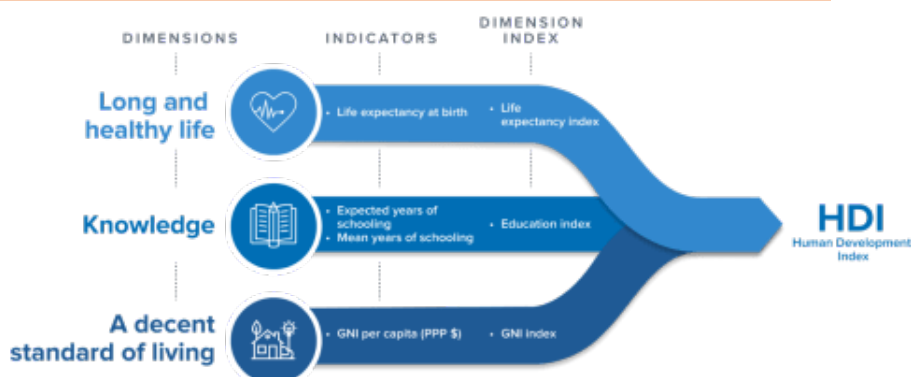
Note: According to the National Flood Commission, about 40 million hectares of land in the country are liable to floods and an average of 18.6 million hectares of land are affected annually.

2. Human Development Index (HDI) by UN Development Programme (UNDP)

News: India has been ranked 132 out of 191 countries in the Human Development Index (HDI), 2021

About HDI

It is released by the United Nations Development Programme (UNDP). HDI was created to emphasize that people and their capabilities should be the ultimate criteria for assessing the development of a country, not economic growth alone.



Key Findings of the index

India's Rank: India's rank on the Index has slipped from 130 in 2020 to 132 in 2021. India's HDI value is 0.633 which is lower than the world average of 0.732.

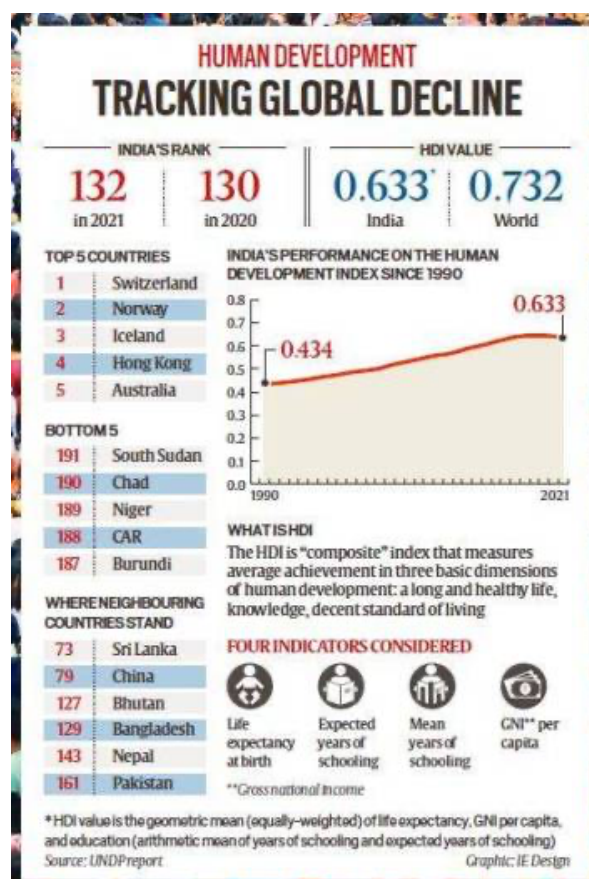
The drop in India's HDI can be primarily attributed to falling life expectancy – 69.7 in 2020 to 67.2 years in 2021. India's **expected years of schooling stand at 11.9 years**, and the **mean years of schooling are at 6.7 years**. The **Gross National Income (GNI) per capita is US\$ 6,590**.

India has shown a slight improvement in its Gender Inequality Index value in 2021 as compared to the 2020 index (0.490 vs 0.493).

Global findings

The index has been topped by Switzerland. 90% of countries have registered a reduction in their HDI value in 2020 or 2021. A large contributor to the HDI's recent decline is a **global drop in life expectancy**, down from 72.8 years in 2019 to 71.4 years in 2021.

The key reasons behind the decline in Human Development in the last two years are the crises the world faced. This included COVID-19 and the war in Ukraine coupled with social and economic shifts and dangerous planetary changes.



3. Progress on the SDGs: The Gender Snapshot, 2022

News: The report titled 'Progress on the SDGs: The Gender Snapshot, 2022' has been released by the UN Women and the UN Department of Economic and Social Affairs (UN DESA).

Key Findings of the Report

- (a) It will take 286 years to achieve full gender equality at the current rate of progress.
- (b) In 2022, women held only 26.4% of Parliamentary seats globally. In 23 countries, representation was below 10%. At the current pace of progress, parity will be achieved in 2062.
- (c) By the end of 2022, around 383 million women and girls will live in extreme poverty (on less than US\$ 1.90 a day) compared to 368 million men and boys.
- (d) In 2020, women held less than 1 in every 3 managerial positions (28.3%). Only 47 of the 151 countries have reached over 40% representation. At current rates, parity will not be achieved for more than 140 years.
- (e) Over 1.2 billion women and girls of reproductive age (15-49) live in countries and areas with some restrictions on access to safe abortion.
- (f) Women hold only 2 in every 10 science, engineering and information and communication technology jobs globally.
- (g) Globally, more than 1 in every 10 women and girls aged 15-49 were subjected to sexual and/ or physical violence by an intimate partner in the previous year.

Recommendations of the Report

- (a) Cooperation, partnerships, and investments in the gender equality agenda are essential to correct the course and place gender equality back on track.
- (b) To eradicate child marriage by 2030, progress must be 17 times faster than the last decade.
- (c) Long-term structural barriers to gender equality, laws and practices need to be addressed and dismantled.

4. India Discrimination Report, 2022

News: Oxfam India has released a report titled 'India Discrimination Report, 2022'.

Key findings of the Report

Women: Labour Force Participation Rate (LFPR) for women in India declined from 42.7% in 2004-05 to 25.1% in 2021. This shows the withdrawal of women from the workforce despite rapid economic growth during the same period.

In 2019-20, 60% of all males aged 15 and above had regularly salaried or self-employed jobs; the rate for females was 19%. For regular, self-employment in urban areas, the average earning for males was INR 15,996. For women, it was only INR 6,626.

Overall discrimination in wages for people from SC, ST and Muslim communities declined in regular and salaried jobs, it increased for women in this period – from 67.2% in 2004-05 to 75.7% in 2019-20.

SC/ST: Mean income for people from SC or ST communities with regular employment in urban areas was INR 15,312 in 2019-20 against INR 20,346 for those from the 'general' category. This means the general category is earning 33% more than SCs or STs.

Muslims: 68.3% of Muslims in urban areas faced discrimination in 2019-20, up from 59.3% in 2004-05.

1. G24

G-24 was established in 1971 by the Group of 77 (G-77) as one of its Chapters. Its mandate is to help coordinate the positions of developing countries on **international monetary and development finance issues** as well as to ensure that their interests are adequately represented in negotiations on international monetary matters.

2. Nagorno-Karabakh Region, Armenia-Azerbaijan Conflict

Nagorno-Karabakh is a **disputed territory** internationally recognized as **part of Azerbaijan**. However, it is governed by the Republic of Artsakh, **de facto independent State** with an **Armenian ethnic majority** backed by Armenia. The conflict over the region has led to 3 wars between the two countries. India has a friendship (1995) with Armenia. Armenia supports India's stance on Kashmir. ONGC/GAIL have investments in Azerbaijan. It also **falls on INSCTC route** connecting India with Russia through Central Asia. However, Azerbaijan supports Pakistan on Kashmir issue. India has taken a principled position in the conflict between Armenia and Azerbaijan and supported its peaceful resolution.



3. Financial Intermediary Fund (FIF)

A new fund named Financial Intermediary Fund (FIF) has been established for **pandemic prevention, preparedness and response (PPR)**. Its purpose is to provide additional, **long-term financing** to strengthen pandemic PPR capabilities (like zoonotic disease surveillance, laboratories, emergency communication, coordination and management, critical health workforce capacities and community engagement) in **low- and middle-income countries** and address critical gaps at the national, regional and global levels. The **World Bank** will serve as a trustee and host the secretariat of the fund with technical support from the **World Health Organization (WHO)**. The fund was developed with **broad support from members of the G20** and beyond.

4. Eastern Economic Forum (EEF)

EEF is an international platform for establishing and strengthening ties within the Russian and global investment communities. The objective is to support the **economic development of Russia's Far East Region** and to expand **international cooperation in the Asia-Pacific region**. It was established by the Decree of the Russian President in 2015. In accordance with the Decree, the meeting of the Forum takes place each year in Vladivostok, Russia.

5. Lake Garda (Italy)

Lake Garda is also known as Benaco. It is the largest lake in Italy. Drought in Italy has reduced Lake Garda to near its lowest level ever recorded. Lower snowfall in early 2022 led to drying up of the **largest river in Italy, Po**. To provide water to farmers, authorities allowed withdrawal of water



from Lake Garda. Low rainfall in July and August led to water levels falling to lowest level. The lake is an important tourist destination.

6. Kushiyara River

Kushiyara River is a distributary river in Bangladesh and Assam. It forms on the India-Bangladesh border as a **branch of the Barak River** when the Barak separates into the Kushiyara and Surma. The waters of the Kushiyara originate in Nagaland and pick up tributaries from Manipur, Mizoram and Assam. India and Bangladesh have signed an **interim water sharing agreement** for the Kushiyara river. This is the first such pact between them in over 25 years – the Ganga water treaty was signed in 1996.



7. New Naval Ensign

The Prime Minister unveiled the new Ensign (flag) of the Indian Navy at the launch of India's first indigenous aircraft carrier, INS Vikrant. This is the 4th time the naval ensign has been changed since 1950.

A naval ensign is a **flag that is installed atop naval warships**, on ground stations, at air bases and at other institutions used as a **form of maritime identification**.

The **Saint George's cross (red cross) has been removed**. The new Indian Navy flag consist of the national flag (**tricolor**) in the upper left canton. In the lower right-hand corner on the fly side, there is Indian national emblem with the national motto '**Satyamev Jayate**' (Devanagari script), **anchor** and **Navy's motto: Shan no Varunaha** (Be auspicious unto us oh Varuna) inside a **blue octagon**. The octagon depicts **eight directions**, symbolizing good fortune, eternity, renewal and draws positive energy from all directions. The **golden border** of the octagon represents the **Rajmudra of Chhatrapati Shivaji Maharaj**, the legendary 16th-century Maratha warrior. He built a credible naval fleet that earned admiration from European navies operating in the region at the time.



8. Exercise Kakadu

It is a multinational maritime exercise hosted by the Royal Australian Navy. The exercise derives its name from Kakadu National Park, which is a protected area in the Northern Territory of Australia. Around 14 countries participated in the exercise including India.

9. Exercise Vostok

It is a multilateral strategic and command exercise hosted by Russia. Participating countries include India, China, Belarus, Mongolia, Tajikistan among others. From the Indian Army, Gorkha Rifles participated in the exercises.

10. MH-60 Romeo Helicopters

India will procure 24 MH-60 Romeo (MH-60R) helicopters by 2025 as part of INR 15,000-crore deal with the US government. MH-60R is an **all-weather helicopter** manufactured by Lockheed Martin Corporation of the US. They are the US Navy's **primary anti-submarine warfare anti-surface weapon**

system for open ocean zones. The helicopters are designed to operate from frigates, destroyers, cruisers and aircraft carriers.

11. Light Combat Helicopter (LCH)

It is an Indian multi-role attack helicopter designed and manufactured by the Hindustan Aeronautics Limited (HAL). The LCH has been ordered by the Indian Air Force (IAF) and Army. It has several stealth features and has armour protection, night attack capability, and crash-worthy landing gear to give it better survivability. It is powered by 2 **Shakti engines** and has a maximum take-off weight of 5,800 kg.

12. F-INSAS

It stands for Future Infantry Soldier As A System. It is a programme for **infantry modernisation** aimed at **enhancing the operational capability of the soldier**. Soldiers are being equipped with modern systems which will be lightweight, all-weather-all-terrain, economical and would require low maintenance. The full gear of the F-INSAS system includes an AK-203 assault rifle; a multimode hand grenade; ballistic helmets and ballistic goggles for protection against small projectiles; a bullet-proof vest; and a hands-free, secured advanced communications set for real-time exchange of information with the command post and fellow soldiers for enhanced situational awareness.

13. Yuan Wang-5

Yuan Wang 5 is the 3rd-generation scientific research ship of the Yuan Wang series, owned by China. The ship can be used to **monitor satellite, rocket and intercontinental ballistic missile launches**. Several experts have described it as a '**dual-use spy ship**'. The ship will be used by China to conduct satellite control and research tracking in the North-western part of the Indian Ocean Region. The Ship docked on Hambantota port in Sri Lanka and was opposed by India due to security reasons.

14. Dark Sky Reserve

A Dark Sky Reserve is public or private land with a **distinguished nocturnal environment** and **starry nights** that has been developed responsibly to **prevent light pollution**. A designated Dark Sky Reserve has policies in place to ensure that a tract of land or region has **minimal artificial light interference**. The International Dark Sky Association (a US-based non-profit) designates places as International Dark Sky Places, Parks, Sanctuaries and Reserves depending on certain criteria.

15. Dark Sky Reserve in Hanle, Ladakh

The Department of Science & Technology (DST) has announced the setting up of India's first Dark Sky Reserve in **Hanle, Ladakh**. It will be situated in the **Changthang Wildlife Sanctuary**. It will be developed by the **Indian Institute of Astrophysics (IIA)**. The reserve will **boost Astro-tourism** in India and will be one of the world's highest-located sites for optical, infrared, and gamma-ray telescopes. Hanle is best suited as it is located in Ladakh's cold desert region with clear sky and dry weather conditions throughout the year and away from human disturbance.

16. Einstein Ring

The Einstein Ring is created when the light from a galaxy or star passes by a massive object enroute to the Earth. Due to the effects of gravitation (called gravitational lensing), the light is diverted, which makes it seem to come from different places. **If the light source, lens, and observer are all in perfect**



alignment, the light appears as a ring. The first example was discovered in 1988. The James Webb Telescope recently discovered an Einstein Ring formed from the light of a distant galaxy ~ 12 billion light-years away from earth, which makes it one of the oldest galaxies in the universe. (Refer EPIC May 2022 for Gravitational Lensing).

17. MOXIE (Mars Oxygen In-Situ Resource Utilization Experiment)

MOXIE is a small box sent by the Massachusetts Institute of Technology with NASA's Perseverance rover. It has produced oxygen on Mars with components from the planet's atmosphere. It inhales carbon dioxide and exhales oxygen. Carbon dioxide makes up ~96% of the gas in Mars' atmosphere (Oxygen is only 0.13%). MOXIE will help demonstrate a way that future explorers might produce oxygen from the Martian atmosphere for propellant and for breathing.

18. Talc-based Powders

Talc (hydrous magnesium silicate) is the **softest known mineral** and is mined from underground deposits. It is used in **cosmetic and personal care products** like baby powder, lipstick etc. It absorbs moisture and reduce friction which keeps the skin dry and helps prevent rashes. Asbestos generally occurs near talc deposits and can contaminate it. Asbestos is known to cause lung/ovarian cancer, mesothelioma and other health conditions. Pharmaceutical giant Johnson and Johnson (J&J) has announced that it will discontinue the sale of its talc-based baby powder globally by 2023.

19. iNCOVACC

Bharat Biotech International Limited (BBIL) has announced that iNCOVACC (BBV154) vaccine has received approval under Restricted Use in Emergency Situation for ages 18 and above. It is an **intra-nasal COVID-19 vaccine**. It is a **recombinant replication-deficient adenovirus vectored vaccine** with a prefusion stabilized spike protein. It uses a modified chimpanzee adenovirus which cannot replicate in the body to carry Covid spike protein to induce immunity. It is **non-invasive** and **needle-free vaccine** that is easy to administer without the requirement of trained healthcare workers.

20. Flue Gas Desulphurization (FGD)

The Ministry of Power (MoP) has extended the deadline for coal-fired power plants to install FGD systems to cut sulphur emissions by two years. FGD is set of technologies used to **remove sulfur dioxide (SO₂) from exhaust flue gases of fossil-fuel power plants** and other industrial units. India is the top SO₂ emitter accounting for 21% of global anthropogenic SO₂ emissions. Thermal utilities account for ~80% of industrial emissions of sulphur and nitrous oxides, which cause lung diseases, acid rain and smog. FGD systems have proved successful in reducing emission levels in China.

21. Global Alliance for Industry Decarbonization

The **International Renewable Energy Agency (IRENA)** and 13 companies across all industry sectors have launched the **Global Alliance for Industry Decarbonization**. Its aims is to accelerate net-zero ambitions and **decarbonisation of industrial value chains** in pursuit of the 2015 Paris Agreement climate goals. It has been formed under the **Bali Declaration** of IRENA. From India, JSW and Tata Steel are part of the group.

22. 'Trees Outside Forests in India' Initiative

The Ministry of Environment, Forest, and Climate Change and the **US Agency for International Development (USAID)** have announced the launch of this initiative. Its aim is to increase tree coverage

outside of forest lands in India to support global climate change mitigation and adaptation goals. The programme will involve farmers, companies and private institutions in India. It will be implemented by a consortium led by the Centre for International Forestry Research (CIFOR) and World Agroforestry. The program will be implemented in **seven states** including Andhra Pradesh, Assam, Haryana, Odisha, Rajasthan, Tamil Nadu, and Uttar Pradesh.

23. Hydrogen-powered Trains in Germany

Germany has launched the world's first fleet of fully hydrogen-powered trains. The trains are **powered by fuel cells** that use hydrogen (stored in tanks above the train coaches) to produce electricity. Electricity is used to power electric motors to run the trains. These trains are claimed as 'emissions-free' trains that can reach speeds of 140 kilometres per hour

24. India Wind Energy Market Outlook, 2026

Global Wind Energy Council (GWEC) has launched the report. It observes that India had a target of installing 60 gigawatts (GW) of wind power by 2022. However, only 40 GW has been established. The installation rate has been slowing down since 2017. Only 1.45 GW of wind projects were installed in 2021. Annual installation of new wind power projects in India will peak by 2024 and likely decline thereafter. After 2024, fresh projects are likely to be **wind-solar hybrid projects** (where both systems are installed on a piece of land to generate power throughout the day).

25. Zombie Ice

According to a study, zombie ice from the massive Greenland ice sheet will **raise the global sea level by at least 10 inches**. Zombie or doomed ice is ice that is still attached to thicker areas of ice but is no longer getting fed by larger glaciers. That's because the parent glaciers are getting less replenishing snow. Without replenishment, the doomed ice is melting and will inevitably raise the sea level.

26. PFAs or Forever Chemicals

A study has found that rainwater from many places across the globe is contaminated with '**per- and polyfluoroalkyl**' (PFA) substances. PFAs are called 'forever chemicals' because of their tendency to stick around in the atmosphere, rainwater and soil for long periods of time. PFAs are used to make non-stick cookware, water-repellent clothing etc. The US Environmental Protection Agency (EPA) lists a variety of health risks due to PFA exposure like decreased fertility, developmental effects in children, interference with body hormones and antibodies, increased cholesterol levels and increased risk of some cancers.

27. Hunger Stones

Hunger stones (*hungersteine* in German) are a common **hydrological marker** in Central Europe that date back to the pre-instrumental era. These stones were embedded into rivers by ancestors when rivers were **subdued to severe levels subsequently causing famine and food shortages**. Many of the hunger stones have unique carvings on them that seek to remind the next generation of impending food shortage if the water level falls to this level.



28. Tasmanian Tiger

Scientists in the US and Australia have embarked on a project to resurrect the Tasmanian Tiger using gene-editing technology. Tasmanian Tiger (*Thylacinus cynocephalus*) was a marsupial mammal that went extinct in the 1930s. Marsupial is a mammal of an order whose members are born incompletely developed and are typically carried and suckled in a pouch on the mother's belly. It was a slow-paced carnivorous that usually hunted alone or in pairs at night. It had a dog-like head and ate kangaroos, other marsupials, small rodents and birds.



29. Trophic Downgrading

It is the causal **degradation of an ecosystem** that occurs when higher trophic level animals are removed from the food chain, **resulting in loss or exponential growth of other species**. Trophic Downgrading also results in disruption of biogeochemical cycles, wildfires, growth of invasive species, and carbon sequestration, among other effects. Extinction of Tasmanian Tiger caused trophic downgrading in Tasmanian ecosystem.

30. De-extinction (Resurrection Biology)

De-extinction is the method of creating a species that went extinct or is endangered, in order to revitalize ecological diversity. **Cloning** is the most widely used method of de-extinction. **Genome editing** and **selective breeding** are also considered effective ways. The **Pyrenean ibex**, (subspecies of Spanish ibex) was **one of the first extinct animals that have been resurrected** using **somatic cell nuclear transfer (SCNT)**, even though the baby Ibex died minutes after its birth from a lung defect.

31. Whale Shark

The whale shark (*Rhincodon typus*) is the **largest fish on Earth** and a **keystone species** in marine ecosystems. It can grow to a length of approximately 18 metres and weigh as much as 21 tonnes. They are **ovoviviparous** (producing young by means of eggs which are hatched within the body of the parent) and can reach sexual maturity at around 10 years old. Its **IUCN Status is Endangered** and falls under **Schedule I of Wildlife (Protection) Act, 1972**. It is distributed widely across tropical and warm temperate seas. The whale shark is distributed all along the Indian coast. However, the largest whale shark aggregation is along the Gujarat coast.

32. Save the Whale Shark Campaign

Wildlife Trust of India (WTI) has launched the '**Save the Whale Shark Campaign**' along Karnataka, Kerala and Lakshadweep. Its aim is to reduce and eradicate whale shark death in the incidental catch in fishing nets by the voluntary release of the whale shark. The main threat to Whale Shark is accidental entanglement in fishing nets. This can result in mortality.

33. Snailfish

Snailfish (also called sea snail) are found in oceans worldwide. But they are strictly found in **cold waters** meaning that species of tropical and subtropical regions strictly are deepwater. The Snailfish releases

biofluorescence, which allows it to glow green and red in the dark arctic waters. Snailfish are the only polar fish reported to have biofluorescence. Scientists have found a snailfish in an iceberg habitat in Greenland that can survive in icy Arctic waters due to the presence of 'antifreeze' proteins in their bloodstream.

34. **Megalodon**

Megalodon meaning 'big tooth', is an extinct species of mackerel shark that lived approximately 23 to 3.6 million years ago, from the Early Miocene to the Pliocene epochs. It was ~50 ft long. It was a fast swimmer and could migrate across global oceans with ease. It could weigh up to 70 tons.

35. **Mudhol Hounds**

It is a breed of **hunting dogs native to north Karnataka**. The breed could soon be inducted into the **Special Protection Group (SPG)**. It is named after the erstwhile princely state of Mudhol. It is also known as the Maratha Hound, the Pashmi Hound, the Kathewar Dog and the Caravan Hound. They are believed to have been bred first by Raja Malojirao Ghorpade of Mudhol. The breed is **already serving the Indian Army**. These dogs have athletic legs, an elongated skull and a 270-degree vision and a sharp sense of smell. They are also swift runners and possess great stamina. Hence, they are ideal for hunting, guarding, and surveillance.

36. **Lumpi-ProVacInd Vaccine for Lumpy Skin Disease**

It is an **indigenously-developed vaccine** against the **Lumpy Skin Disease (LSD)** virus. It has been developed by the **ICAR's National Research Centre on Equines (NRCE)** at Hisar, Haryana and the **Indian Veterinary Research Institute (IVRI)** at Izatnagar, UP. It is a **live attenuated vaccine**, similar to those used against tuberculosis, measles, mumps and rubella. This vaccine provides 100% protection against LSD in cattle.

37. **BPAL**

BPAL is a 6-month, all-oral, three-drug regimen that is used to treat people with **highly drug-resistant forms of TB**. It has been developed by TB Alliance, a not-for-profit organization. It is a combination of three newer antibiotics, namely bedaquiline, pretomanid and linezolid. Drug-resistant TB develops when the long, complex, decades-old TB drug regimen is improperly administered or when people contract TB from others who have drug-resistant disease.

38. **Majma-ul-Bahrain**

Majma-ul-Bahrain ("The Confluence of the Two Seas" or "The Mingling of the Two Oceans") is a book on **comparative religion** authored by Mughal Prince **Dara Shikoh**. The book throws invaluable light on the similarities between religions and helps bring stronger unity among the people of India. In the book, Dara Shikoh listed one by one, all the **commonalities** between Hinduism (**Vedanta**) and Islam (**Sufism**) and came to the conclusion that the difference between Islam and Hinduism is only verbal. The Vice President has released the Arabic Version of *Majma Ul-Bahrain* recently.

39. **Annabhau Sathe**

He was born as Tukaram Bhaurao Sathe in 1920 in Maharashtra. He participated in the '**Chavdar Lake**' **satyagraha** at Mahad. He formed several activist organizations like the **Dalit Yuvak Sangh**, and **Lal Bawta Kala Pathak** and worked on issues related to caste atrocities, class conflict, and workers' rights. His notable literary works include **Fakira** (Marathi Novel, 1959), **Bangalchi Hak** (Bengal's Call, on the

Bengal famine) *Stalingradcha Powada*, *Majhi Maina Gavavar Rahili*, and a travelogue titled *Majha Russiacha Pravas* (My Travel to Russia). His statue was recently unveiled at the All-Russia State Library for Foreign Literature in Moscow.

40. Pandurang Khankhoje

Pandurang Khankhoje (1884 – 1967) was an Indian revolutionary, scholar and agricultural scientist. He was one of the founding members of the **Ghadar Party**. He had joined the Mount Tamalpais Military Academy in the US, where he came in contact with many Mexicans. He had also met with Lenin in Russia to seek support for India's cause. Later he was appointed as a professor at the National School of Agriculture in Mexico. He was part of efforts to bring in the Green Revolution in Mexico. The Speaker of Lok Sabha recently unveiled statues of Swami Vivekananda and Pandurang Khankhoje in Mexico.

41. Arattupuzha Velayudha Panicker

He was a social reformer from the Ezhava community in Kerala. He was given the title of 'Panicker' by the then-king of Travancore in 1869. He built **two temples** dedicated to God *Shiva*, in which members of **all castes and religions were allowed entry**. In 1858, he led the **Achippudava Samaram strike** in Alappuzha aimed to earn women belonging to oppressed groups the right to wear a lower garment that extended beyond the knees. In 1860, he led the **Mukkuthi Samaram** for the rights of lower-caste women to wear gold ornaments. He also established the first **Kathakali Yogam** (area-based schools for the classical dance form Kathakali) for the Ezhava community in 1861.

42. GI Tag to Mithila Makhana

The Government of India has awarded the Geographical Indication (GI) tag to Mithila Makhana. It is a special variety of **aquatic cash fruit crops** cultivated in **Mithila region of Bihar**. It is an **auspicious ingredient in offerings to the God and Goddesses** during festivals and is used to show reverence. Its geographical area of production is in 21 out of 38 districts, mostly situated in the North of the Bihar state like Darbhanga, Muzaffarpur, Champaran, Begusarai, Madhubani, Katihar among many others.

43. Shumang Leela

It is a traditional form of **theatre in Manipur**. The theatre is arranged in the form of open-air from 4 sides. In this, the **roles of female artists are all played by male actors and male characters are played by female artists**. The present-day *Shumang Leelas* address the issues of moral values, unity and integrity. In 2017, **Shougrakpam Hemanta** was conferred with the prestigious **Sangeet Natak Akademi Award** in recognition of his contribution to *Shumang Leela*.

44. Legal Aid Defence Counsel (LADC) System

It has been launched by the National Legal Services Authority (NALSA). Its purpose is to provide **free legal aid to poor people facing criminal cases** to defend themselves during trial.

45. Cri-MAC Portal

It was launched in 2020 by the Ministry of Home Affairs. Its aim is to share information on crime and criminals (on 24×7 basis) with various law enforcement agencies and ensure a seamless flow of information among them. The application is run by the National Crime Records Bureau. It

facilitates the dissemination of information about significant crimes including human trafficking across the country on a real-time basis and enables inter-State coordination

46. Forensic Probe

Delhi Police has become the first police force in the country to make **collection of forensic evidence mandatory in crimes punishable by more than 6 years**. The objective is to boost the conviction rate and integrate the criminal justice system with forensic science investigation. A **forensic mobile van** shall be allotted to each district. These vans will be independent entities responsible to the court of law and not under the administrative control of the city police.

47. NIDAAN Portal

The NIDAAN (National Integrated Database on Arrested Narco-offenders) Portal has been made operational for use by various Union and State Prosecution Agencies tasked to **enforce anti-drugs laws**. It has developed by the **Narcotics Control Bureau**. NIDAAN hosts data about those accused who have been arrested and jailed for drug offences and those who are directly or indirectly involved in the produce, manufacture, import/export of any narcotics or psychotropic substance.

48. Paalan 1000 Campaign

The Union Minister of State for Health has launched the Paalan 1000 National Campaign and **Parenting App** to reduce child mortality. The campaign focuses on the cognitive development of children in the first 2 years of their life. The app will **provide practical advice to caregivers**. The campaign is aligned with the mission of the **Rashtriya Bal Swasthya Karyakram** (RBSK) which emphasizes responsive care and focused interventions during the first 1,000 days of a child.

49. Manthan Platform

The Office of the Principal Scientific Adviser (PSA) to the Government of India has announced the launch of the **Manthan platform**. It is a platform to **promote collaboration between industry and the scientific research and development ecosystem** to help meet India's scientific missions. The platform will facilitate knowledge transfers and interactions. The platform is powered by NSEIT. NSIET is a 100% subsidiary of the National Stock Exchange of India. It is a global technology enterprise that offers a range of digital, data analytics, automation, cybersecurity, and technology-enabled services.

50. Bal Aadhar

It is a blue-coloured variant of the Aadhar Card. It is **issued for children below 5 years**. **Biometrics are not collected for Bal Aadhar**. A facial image of a child is taken for enrolment. Biometric authentication of the parent/guardian is collected at the time of enrolment. At the age of 5, biometrics are furnished to complete the **mandatory biometric update**. Over 7.9 million children aged up to five were enrolled under the Unique Identification Authority's Bal Aadhaar initiative from April to July.

51. Roshni Saline Water Lantern

It is India's first saline water lantern which **uses seawater as the electrolyte** between specially designed electrodes to **power the LED lamps**. It has been developed by **National Institute of Ocean Technology**. Normal water mixed with salt can also be used to power the lantern. It is cost-effective and easy to operate. It will benefit poor communities.

52. Har Ghar Jal Certification

Goa and **Dadra & Nagar Haveli** and **Daman & Diu** (D&NH and D&D) became the first 'Har Ghar Jal' certified State and UT in the country respectively. *Jal Jeevan* Mission is a flagship programme of Government of India launched in 2019. Its aim is to make provision of **potable tap water supply** in adequate quantity, of prescribed quality and on regular & long-term basis to every rural household of the country by 2024.

53. Super Vasuki

The Indian Railways recently conducted a test run of train called Super Vasuki. It is a 3.5 km long freight train. This is the **longest and heaviest freight train that the Railways have ever operated**. The train gets its name from Vasuki, the Hindu god of serpents. Shiva's snake, Vasuki, is portrayed as being around his neck. The train was run by the **South East Central Railway**.

54. SETU Initiative

SETU initiative would connect start-ups in India to US-based investors and start-up ecosystem leaders with mentorship and assistance in various areas including funding, market access and commercialization. Its aim is to break geographical barriers between mentors based in the US that are willing to invest in entrepreneurship and sunrise start-ups in India.

55. Kerala Savari

Kerala has launched 'Kerala Savari', the country's first online taxi service owned by a State government. Its aim is to ensure fair and decent service to passengers along with fair remuneration to auto-taxi workers. It is several features like no surge pricing, safety features for women, low service charge and a panic button for security.

NOTE: With effect from 1st February, the monthly ForumIAS Epic Magazine, for the month will provide wholistic 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.