



INSIGHTSIAS

SIMPLIFYING IAS EXAM PREPARATION

SUNDARBANS

India and Bangladesh have signed an agreement to address climate-related loss and damage in the Sundarbans, a UNESCO World Heritage Site shared between the two countries.

25 SEP - 30 SEP 2023

WEEKLY CURRENT AFFAIRS

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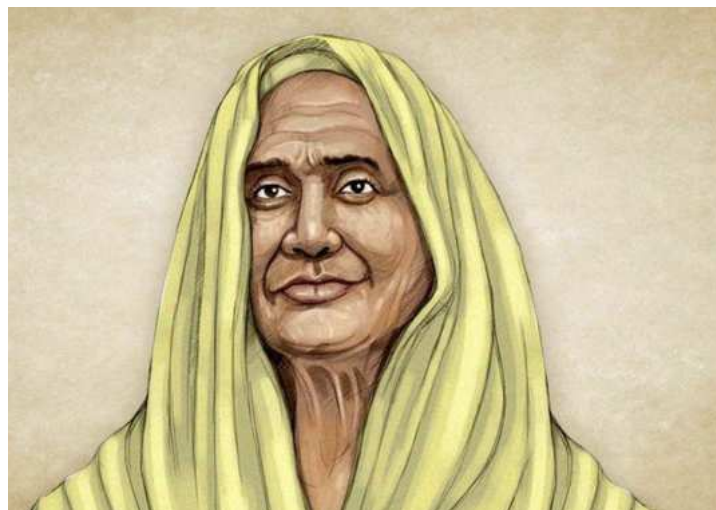
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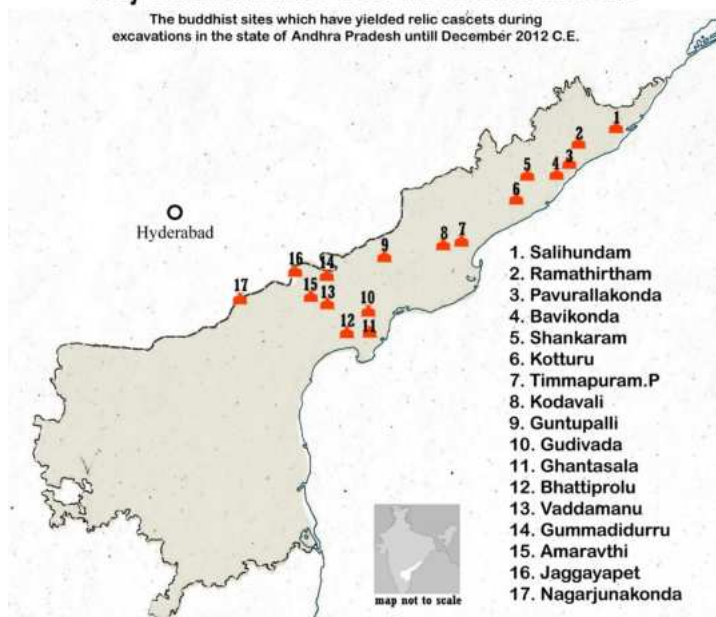
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Holy Buddhist Relic Sites in Andhra Pradesh

The buddhist sites which have yielded relic caskets during excavations in the state of Andhra Pradesh until December 2012 C.E.



GENERAL STUDIES – 1

Topics: Salient features of Indian Society, Diversity of India.

1. SUICIDES IN INDIA

Context:

The article discusses the alarming increase in student suicides in Kota, India, describing it as a “**suicide cluster**” that demands a public health approach.

What are Suicides?

Suicide refers to **intentional acts where individuals** cause their own death. A **suicide cluster** occurs when suicides, attempts, or self-harm events happen closer in time and space than expected, forming a pattern.

Example:

In Kota, India, a suicide cluster mainly affects students preparing for exams in residential coaching centres. These clusters can lead to **contagion**, where one person’s suicide can **trigger suicidal thoughts or attempts in others** who are already vulnerable.

Reasons for Rising Student Suicide:

- **Social Stigma:** not enough discussion about depression and suicides
- Academic Pressure
- Relationship breakdown.
- **Lack of adequate support:** the ‘Log Kya Kahenge’ attitude (‘What will people say’) in Indian society is a permanent feature in the lives of competitive exam aspirants.
- **High expectations** from Students.
- **Mental Issues:** Anxiety disorder, depression, personality disorder.

Suicides among women in India

Women in India account for over one-third of global female suicide deaths. According to NCRB data, in the year 2021, over 45 thousand women died by suicide.

Several complex and interconnected factors contribute to this concerning issue of increasing female suicides

Factors Contributing to Female Suicides	Description
Mental Health Stigma	The stigma around mental health can deter young women from seeking professional help.

Marital Pressures	Early and forced marriages, dysfunctional marriages, domestic abuse, and dowry harassment increase suicide risk.
Housewives	Over 50% of female suicides in India are among housewives (NCRB data).
Societal Contradictions	The conflict between increasing female education and empowerment and persistent gender disparities.
Gender Discrimination	Disparities in access to education, employment, and decision-making lead to hopelessness and frustration.
Social Media and Peer Pressure	Exposure to cyberbullying, revenge pornography, and peer pressure affects self-esteem and body image.
Educational Stress	High expectations from parents and society cause stress, anxiety, and depression.
Economic Factors	Financial struggles, unemployment, and financial dependence, such as single mothers facing challenges.

Government steps taken:

Initiative	Description
National Suicide Prevention Strategy (NSPS)	Aims to reduce suicides by 10% by 2030.
Suicide Surveillance Systems	Targeted at establishing effective suicide surveillance systems within the next three years.
Mental Health Outpatient Clinics	A goal under NSPS is to set up mental health outpatient clinics providing suicide prevention services within five years.
Helplines in Various States	Several states (e.g., Telangana, Kerala, Andhra Pradesh, Karnataka, Tamil Nadu) have launched suicide prevention helplines.
MANAS program in Maharashtra , strict law enforcement against dowry, child marriage, and forced marriages, and efforts by NGOs like Snehi and Vandrevala Foundation contribute to suicide prevention efforts.	

For: “Student Cell”: For suicide prevention: [Click Here](#)

What more should be done?

Action	Description
Implement a Response Plan	Develop and enforce a Suicide Cluster Response Plan involving surveillance, consistent information sharing between agencies, and support for those bereaved by suicide.
Media Responsibility	Encourage media to report responsibly on suicides to prevent contagion.
Regular Monitoring and Review	Continuously assess the effectiveness of the response and adapt strategies based on lessons learned.
Adopt Successful Models	Consider adopting successful approaches like the Tomorrow Project in Nottingham, UK, which halted suicide contagion through community information, meetings, and clinical support.

Ethical Perspective of Suicide:

Ethical Perspectives	Description
Moralists	Suicide prevention is a moral obligation. Philosophers like Kant argue that humanity should be considered an end in itself , and using oneself as a means to an end (suicide) is unacceptable.
	Plato emphasizes obligations to society , making suicide inconsistent with the greater good.
	Evident in countries like Singapore and India , where attempted suicide is punishable.
Libertarians	Suicide can be a rational, carefully contemplated choice to avoid pain or suffering.
	Value freedom of choice, considering the decision to die by suicide a right.
	Reflected in countries where suicidal behaviour is decriminalized or euthanasia is legalized
Relativists	The acceptability of suicide varies based on a cost-benefit analysis of situational, cultural, and contemporary variables.
	The decision is influenced by individual, family, and societal needs at that moment
	The analysis aims to maximize social utility , considering whether suicide benefits or harms society.

Conclusion

Indian society needs more comprehensive efforts to create a supportive environment for all irrespective of age, back-

ground, and economic conditions in order to mitigate these preventable deaths by suicides.

Insta Links: [Preventing Student Suicides](#)

Mains Links: Q. Explain why suicide among young women is increasing in Indian Society (UPSC 2023)

Topics: Population and associated issues, poverty and developmental issues.

2. INDIA AGEING, ELDERLY TO MAKE UP 20% OF POPULATION BY 2050: UNFPA REPORT

Context:

The United Nations Population Fund, India, has released the “**2023 India Ageing Report**,” which projects a significant increase in the elderly population in India

Major Findings of the Report:

Findings	Description
Elderly Population Growth	The population of people aged 80+ years is projected to grow by around 279% between 2022 and 2050.
	By 2046 it is likely that the elderly population will have surpassed the population of children (aged 0 to 15 years) in the country
Elderly Population Share	By 2050, the elderly population in India is expected to make up over 20% of the total population (The present share of elderly is about 10% in 2021)
Poverty Among the Elderly	More than 40% of the elderly in India are in the poorest wealth quintile, with over 18% having no income.
Gender Differences in Life Expectancy	Women, on average, have a longer life expectancy compared to men, with variations across states.
Sex Ratio Among the Elderly	The sex ratio among the elderly is increasing, indicating longer survival of women compared to men.
Gendered Poverty in Old Age	Poverty is gendered in old age , with older women more likely to be widowed, living alone, and dependent on family support.
Challenges in Demographic Transition	Significant inter-state variations in the elderly population reflect different stages of demographic transition.

Policy Recommendations	The report suggests policies to address the feminization and ruralization of the elderly population, increase awareness of schemes for older persons, and promote in-situ ageing.
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Policy recommendations from the “2023 India Ageing Report”:

Recommendations	Description
Address Gender-Specific Challenges	Policies should specifically address the challenges faced by older women, including widowed and dependent elderly women.
Promote In-Situ Aging	Encourage and facilitate ageing at home (in-situ ageing) where possible, ensuring that elderly individuals can stay within their communities.
Increase Awareness of Schemes	Raise awareness about government schemes and programs designed for older persons, ensuring they can access necessary support.
Regulate Old Age Homes	Implement regulatory measures to oversee Old Age Homes , ensuring the well-being and rights of residents.
Inclusion in Data Collection Exercises	Include relevant questions related to older persons in national data collection exercises to gather credible data on elderly issues.
Focus on Multigenerational Households	Encourage elderly individuals to live in multigenerational households, promoting better care and support within families.

Other aspects of Ageing:

Effects of globalization on India’s ageing population:

Positive Effects:

Effects	Description
Access to Healthcare	Globalization has improved healthcare facilities and technologies, enhancing the health of the elderly.
Economic Opportunities	New economic opportunities have improved the financial situation of elderly citizens relying on savings or pensions.
Technology Access	Increased technology access enables elderly citizens to stay connected with family worldwide.
Social Inclusion	Globalization fosters social inclusion and participation by introducing new cultures and lifestyles.

Negative Effects:

Effects	Description
Ageism	Globalization has led to ageism, devaluing the role of the elderly in society.
Economic Insecurity	Economic insecurity has arisen due to job loss or reduced savings resulting from globalization’s impact on the economy.
Social Isolation	Changing family structures and urban migration of younger generations have increased social isolation among the elderly.
Health Risks	Unhealthy lifestyles, like processed food consumption, lack of physical activity, and pollution exposure, have increased health risks for the elderly.

Challenges faced by women in old age due to rising life expectancy and widowhood:

Challenges	Description
Financial Dependence	Limited access to employment opportunities, lower wages, and inadequate savings can lead to financial dependence in old age.
Deteriorating Health	Aging can bring deteriorating health, including chronic diseases, mobility issues, and mental health challenges.
Social Isolation	Older women, especially widows, may experience social isolation and loneliness due to the loss of a spouse and limited social networks.
Rural Situation	Older women in rural areas face unique challenges like limited access to healthcare, inadequate infrastructure, and caregiving or agricultural burdens.
Intersectionality	Women from marginalized communities may face compounded challenges in old age due to their socio-economic background, and tribal or minority status.
Ageism and Misogyny	Older women may encounter ageism and misogyny, leading to stereotypes, discrimination, and limited opportunities for engagement in various aspects of life.

Suggested measures:

Measures	Description
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Social Security Systems	E.g., Kalaingar Magalir Urimai Thittam is a women's rights grant scheme just rolled out in Tamil Nadu aimed at providing financial support to eligible women recognized as heads of families
	Karnataka Gruha Lakshmi Scheme supports women heads of families by providing eligible women will receive financial assistance of ₹2000 per month.
	Intergenerational programs: Programs that promote intergenerational bonding, such as mentorship programs and community service projects
Access to Healthcare	Improve access to healthcare services, including geriatric care, preventive screenings, and mental health support, to address the specific health needs of older women.
Social Inclusion	Promote social inclusion and active participation of older women through community-based programs, intergenerational activities, and support networks.
Civil Society Engagement	Community-based initiatives and CSO engagement through Senior citizen clubs and programs , can provide social support and help prevent social isolation among the elderly
	E.g. Asha Deep Foundation provides Day Care Centre for the elderly members of our community who are either neglected, have no children or are abandoned by their families.
Demographic Stability	Focus on policies and programs that address population ageing and the needs of older women, such as promoting family planning , women's empowerment, and intergenerational solidarity.
Community-based care system for elders	ASHA program could be used for building a community-based workforce to support the diverse health and social care needs of elders
Age-friendly cities	Cities can be designed to be age-friendly , with infrastructure and public spaces that are accessible to all, including elderly citizens.

Government Scheme for Old Age:

Scheme	About
National Social Assistance Programme (NSAP)	Offers non-contributory pensions for the elderly, widowed women, and disabled individuals. Administered by the Ministry of Rural Development.

Pradhan Mantri Vaya Vandana Yojana (PMVVY)	Exclusive pension scheme for senior citizens aged 60 and above. Extended up to 2023 for three more years beyond 2020.
Integrated Program for Older Persons (IPOP)	Aims to enhance the quality of life for senior citizens by providing basic amenities such as food, shelter, medical care, and entertainment opportunities.
Rashtriya Vayoshree Yojana	Central sector scheme funded by the Senior Citizens' Welfare Fund. Provides aids and assistive living devices to elderly BPL individuals with age-related disabilities.
SAMPANN Project	Launched in 2018, an online pension processing system for Department of Telecommunications pensioners. Direct credit of pension into bank accounts of pensioners.
SACRED Portal for Elderly	Developed by the Ministry of Social Justice and Empowerment. Citizens above 60 can register to find jobs, and work opportunities, and access information and guidance on various issues.
Elder Line: Toll-Free Number for Elderly	Provides information, guidance, emotional support, and immediate assistance for elderly citizens, particularly on pension, medical, and legal matters.
SAGE (Senior-care Ageing Growth Engine) Initiative	A platform offering access to elderly care products and services by credible start-ups, supporting entrepreneurship in the field of elderly care.

Conclusion:

By recognizing the specific needs of older persons and providing targeted support, we can create a society that values and empowers them, ensuring their well-being and active participation in all spheres of life.

About UNFPA (United Nations Population Fund):

It is a UN agency (founded 1969; HQ: New York) dedicated to enhancing **global reproductive and maternal health**. It works on **national healthcare strategies**, access to birth control, and campaigns against child marriage, gender-based violence, obstetric fistula, and female genital mutilation. Operating in over 144 countries across four regions, it's a key member of the **United Nations Development Group**, focusing on achieving the Sustainable Development Goals. UNFPA has been operating in **India since 1974**

Insta Links:

- [Issues related to Elderly People](#)
- [old age care](#)
- [World Population Prospects](#)

Mains Links:

Q. Despite Consistent experience of high growth, India still goes with the lowest indicators of human development. Examine the issues that make balanced and inclusive development elusive. (UPSC 2021)

Prelims Links:

Q. Which of the following is/are the principal UN organs?

1. UN Security Council
2. The Economic and Social Council
3. The Trusteeship Council and the Secretariat
4. World Health Organization (WHO)

Select the correct answer using the codes given below:

- a. 1, 2 and 3 only
- b. 2, 3 and 4 only
- c. 1 and 2 only
- d. 1, 2, 3 and 4

Ans: (a)

GENERAL STUDIES – 2

Topics: Functions and responsibilities of the Union and the States, issues and challenges pertaining to the federal structure, devolution of powers and finances up to local levels and challenges therein.

1. CAUVERY WATER DISPUTE

Context:

The Supreme Court has refused to intervene in the ongoing Cauvery water dispute between Tamil Nadu and Karnataka, highlighting the persisting tensions despite an official resolution.

What is the [Cauvery Water Dispute](#)?

The Cauvery Water Dispute is a dispute between the Indian states of **Karnataka and Tamil Nadu**, along with **Kerala and Puducherry**, over the sharing of the **Cauvery River's waters**. It involves issues of water allocation and usage rights, with historical agreements, tribunals, and court rulings playing a significant role in its resolution.

Background of the dispute:

Year	Event
19th Century	Agreements were made between the Madras Presidency and Mysore regarding water usage.
	The agreement was that the upper riparian state needed the lower riparian state's consent for any construction, like a reservoir, on the Cauvery River.

1974	Karnataka started diverting Cauvery water without Tamil Nadu's consent , triggering the modern phase of the dispute.
1990	The Cauvery Water Disputes Tribunal (CWDT) was established to address the water-sharing conflict.
2007	CWDT issues its final award , specifying water allocations among Karnataka, Tamil Nadu, Kerala, and Puducherry. Considering the total availability of 740 TMC in a normal year. CWDT allocated water among the four states as follows: Tamil Nadu – about 404 TMC, Karnataka - about 284 TMC, Kerala - 30 TMC, and Puducherry - 7 TMC
2018	Supreme Court upholds CWDT's award , declaring the Cauvery a national asset and ordering the establishment of the Cauvery Water Management Scheme . In June 2018, the central government established the 'Cauvery Water Management Scheme' , which includes the ' Cauvery Water Management Authority ' and the ' Cauvery Water Regulation Committee .'

How is water being Shared currently?

Water sharing in the Cauvery River is regulated by a **monthly schedule between Karnataka and Tamil Nadu**. In a typical year, Karnataka must release about 177 TMC of water to Tamil Nadu from June to May, including about 123 TMC during the monsoon months from June to September. Disputes often arise during the **southwest monsoon season when rainfall is below expectations**.

Reasons behind the Dispute:

Reasons	Description
Recent Issues	Tamil Nadu went to the Supreme Court to ensure the release of 24,000 cusecs of water from Karnataka's reservoir. Karnataka had previously refused agreed-upon water release quantities.
	Mekedatu Dam Project: Tamil Nadu argues that the project is unauthorized and could harm its interests , violating the orders of the Cauvery Water Disputes Tribunal and the Supreme Court.

Karnataka Stand	While Tamil Nadu advocates for 10,000 cusecs of water release for 15 days . Karnataka suggests 8,000 cusecs of water release for the same 15-day period.
	Karnataka cites poor inflow due to reduced rainfall in the Cauvery catchment , including Kodagu.
	It highlights a 44% rainfall deficit in Kodagu from June to August.
	It rejects Tamil Nadu's distress-sharing formula demand.
Implications	Tamil Nadu's farmers are awaiting Karnataka's response due to low water storage in the Mettur reservoir (20 TMC, lasting ten days). This may impact agriculture crops and water requirements in the region.
Ineffective Tribunals	The government creates tribunals for each dispute. However, these tribunals are ineffective, and ad hoc, and their judgments have little legal basis . Further, when states challenge their decisions, the conflict is only exacerbated .
	The existing Inter-State River Water Disputes Act, 1956 , relies on tribunals to resolve disputes.
Water distress	The distress caused by Climate change, erratic rainfall, depleting groundwater, and water-intensive cropping patterns intensify river disputes.

The way ahead:

- Passing a law to empower tribunals to enforce decisions is crucial for quicker and more effective resolution of these disputes.
 - In 2017, the Lok Sabha passed the **Inter-State River Water Disputes (Amendment) Bill** to create a single permanent tribunal and a mediation committee, but the implementation has not yet been done.
- Allowing for **water harvesting** on a larger scale in both Karnataka and Tamil Nadu
- Strengthening the interstate council and Zonal councils for dispute resolution

Conclusion:

As India faces growing water scarcity and declining river volumes, there is a need for urgent legislation granting tribunals the power to enforce their decisions, facilitating quicker and more effective resolution of inter-state river water disputes.

About Cauvery River

It is the **third largest river** – after Godavari and Krishna – in southern India, and the **largest** in the state of Tamil Nadu, known as '**Ponni**' in Tamil. Originates in Karnataka (**Talaka-veri** in the Brahmagiri range in the Western Ghats, Kodagu district) and eventually drains into the Bay of Bengal. Its **left bank tributaries** include Arkavathi, Hemavathi, Shimsa, and Harangi, while **right bank tributaries** consist of Lakshmantirtha, Suvarnavati, Noyil, Bhavani, Kabini, and Amaravathi.



Mains Links:

Q. Constitutional mechanisms to resolve the inter-state water disputes have failed to address and solve the problems. Is the failure due to structural or process inadequacy or both? Discuss. (UPSC 2013)

Prelims Links:

Q. Which of the following Protected Areas are located in the Cauvery basin? (UPSC 2020)

- Nagarhole National Park
- Papikonda National Park
- Sathyamangalam Tiger Reserve
- Wayanad Wildlife Sanctuary

Select the correct answer using the code given below:

- 1 and 2 only
- 3 and 4 only
- 1, 3 and 4 only
- 1, 2, 3 and 4

Ans: C

Topics: Government policies and interventions for development in various sectors and issues arising out of their design and implementation.

2. PARLIAMENTARY PANEL ON MEME SYSTEM IN NEP 2020

Context: The [Parliamentary Standing Committee](#) on Educa-

tion has advised the Indian government to hold discussions with stakeholders regarding the **multiple entry and multiple exit (MEME) system** proposed in the [National Education Policy \(NEP\) 2020](#).

What is a multiple entry and multiple exit (MEME) system?

The Multiple Entry and Multiple Exit (MEME) system is an **educational approach that allows students in higher education to enter and exit their academic programs** at various points, not necessarily following a traditional linear progression.

Benefits:

- It offers **students greater flexibility by permitting them to leave with certificates or diplomas** at different stages rather than completing a full degree program, which can suit their **individual needs and circumstances**.
- This system is intended to **provide diverse educational pathways** and enhance access to higher education.

However, the parliamentary panel has criticised the MEME system due to:

- Uncertainty in Student Numbers:** The panel expressed concerns that the **high student population in India makes** it difficult for institutions to predict how many students will exit or join midway, leading to uncertainty in managing resources and maintaining pupil-teacher ratios.
- Geographical Challenges:** Uneven distribution of higher educational institutions across the country, particularly in rural areas, poses challenges in implementing MEME effectively.
- Lack of Clear Framework:** The panel noted that there is a need for comprehensive guidelines and a **well-defined framework for MEME options**, including specific eligibility criteria and credit transfer mechanisms.
 - Without these, the implementation of MEME could be problematic.
- Potential for Devalued Degrees:** Some critics, including students and teachers, fear that the MEME system could **devalue degrees by allowing students to exit** with lower-level qualifications, potentially leading to a perception of producing cheap labour for the job market.
- State-Level Opposition:** Some states, like **Kerala**, have decided not to implement MEME in their colleges and universities, highlighting a lack of uniformity in its acceptance across regions.
- Dropout Concerns:** Experts and critics have **expressed concerns that the MEME system could increase dropout rates**, as students may opt for early exits without completing full-degree programs.

Other Recommendations by the Panel:

- Introduction of the **“Design Your Degree” programme** (adopted in Jammu University) in Higher Education Institutions for **Personalized, Interdisciplinary Learning**.
- Develop and distribute educational content tailored** to local needs and languages.
- Research and innovation** in the field of education for marginalized communities.

Provisions of the National Education Policy (NEP) 2020 for higher education:

Provisions	Description
Increase GER to 50% by 2035	NEP 2020 aims to increase the Gross Enrolment Ratio (GER) in higher education, including vocational education, from about 26% (2018) to 50% by 2035
Holistic Multidisciplinary Education	The policy envisions broad-based, multi-disciplinary, holistic undergraduate (UG) education with flexible curricula.
	It promotes creative combinations of subjects , integration of vocational education, and introduces multiple entry and exit points with appropriate certification.
	UG education can be 3 or 4 years with various exit options and certifications at different stages.
	By 2025, at least 50% of learners through school and higher education systems shall have exposure to vocational education
Regulation	The Higher Education Commission of India (HECI) will be established as a single overarching umbrella body for the entire higher education system, excluding medical and legal education.
HECI will consist of four independent verticals:	National Higher Education Regulatory Council (NHERC) for regulation
	General Education Council (GEC) for standard setting
	Higher Education Grants Council (HEGC) for funding
	National Accreditation Council (NAC) for accreditation
	Both public and private HEIs will adhere to the same set of norms for regulation, accreditation, and academic standards.

Rationalised Institutional Architecture	The definition of a university will be expanded to include a spectrum of institutions, ranging from Research-intensive Universities to Teaching-intensive Universities and Autonomous degree-granting Colleges
	Model public universities for holistic and multidisciplinary education, at par with IITs, IIMs, etc., called MERUs (Multidisciplinary Education and Research Universities) will be set up

Major initiatives under NEP 2020 (for all types of education) are:

Initiative	Description
PM-SHRI	High-quality education in schools with a focus on equity and inclusivity
NIPUN Bharat	Universal acquisition of foundational literacy and numeracy by Grade 3, by 2026-27
PM e-VIDYA	Promoting online education and digital learning through various platforms and resources.
NCF FS and Jadui Pitara	National Curriculum Framework for Foundational Stage and play-based learning for ages 3-8
NISHTHA	Capacity-building program for teachers and school principals.
NDEAR	Blueprint for digital technology-based education applications.
Academic Frameworks	Introduction of National Credit Framework (NCrF) and National Higher Education Qualification Framework (NHEQF).
Increased Investment in Education	Advocating for 6% of GDP allocation to education.
Educational Innovation in GIFT City	Allowing foreign universities in Gujarat's GIFT City to offer specialized courses.
World-Class Institutions Scheme	Creating top-notch academic and research facilities and designating " Institutions of Eminence " (IoEs).
GIAN and SPARC	Tapping expertise for academic resources and fostering research collaborations.

Insta Links: [Key highlights of the NEP](#)

Mains Links:

Q. National Education Policy 2020 is in conformity with the Sustainable Development Goal-4 (2030). It intends to restructure and reorient the education system in India. Critically examine the statement. (UPSC 2020)

Prelims links

Q. Consider the following statements: (UPSC 2018)

1. As per the Right to Education (RTE) Act, to be eligible for appointment as a teacher in a State, a person would be required to possess the minimum qualification laid down by the concerned State Council of Teacher Education.
2. As per the RTE Act, for teaching primary classes, a candidate is required to pass a Teacher Eligibility Test conducted in accordance with the National Council of Teacher Education guidelines.
3. In India, more than 90% of teacher education institutions are directly under the State Government.

Which of the statements given above is/are correct?

- (a) 1 and 2
- (b) 2 only
- (c) 1 and 3
- (d) 3 only

Answer: B

Topics: Issues relating to development and management of Social Sector/Services relating to Health, Education, Human Resources.

3. FINDINGS OF PARLIAMENTARY PANEL ON NEP

Context:

This is an extension of the article on 25th September ([Parliamentary panel on MEME system in NEP 2020](#))

Other Key Findings of the Parliamentary Standing Committee on Education:

1. **70% of universities** in India operate under State Acts.
2. **94% of students** attend State or private institutions.
3. **Issues:** Rigid academic disciplines, limited access in disadvantaged regions, shortage of local language instruction.
4. **Insufficient faculty numbers.**
5. NEP implementation in **Jammu and Kashmir is a positive example.**
6. Concerns about the feasibility of [multiple entry and exit systems \(MEME\)](#).

Recommendations by the Committee:

1. **Establish at least one multidisciplinary HEI** in every district by 2030. Increase Gross Enrolment Ratio to 50% by 2035.
2. **Increase funding**, enrolment targets, gender balance, and support for Socially and Economically Disadvantaged Groups (SEDGs) in HEIs.

3. **Promote inclusivity in admissions and curriculum**, improve employability, and offer more regional language courses.
4. **Provide infrastructural support for physically challenged** students and enforce non-discrimination rules.
5. **Diversify funding sources for the Higher Education Financing Agency (HEFA)** and review loan interest rates.
6. **Address challenges of the MEME system**, considering potential disruptions in pupil-teacher ratios.

GENERAL STUDIES – 3

Topics: Indian Economy and issues relating to planning, mobilization of resources, growth, development, and employment.

1. INDIA'S GDP MEASUREMENT AND ITS LIMITATIONS

Context:

Accurate GDP measurement is crucial for India's economic goals. Currently, India's GDP **base year is outdated (2011-12)**, which may not capture recent economic activities and investments.

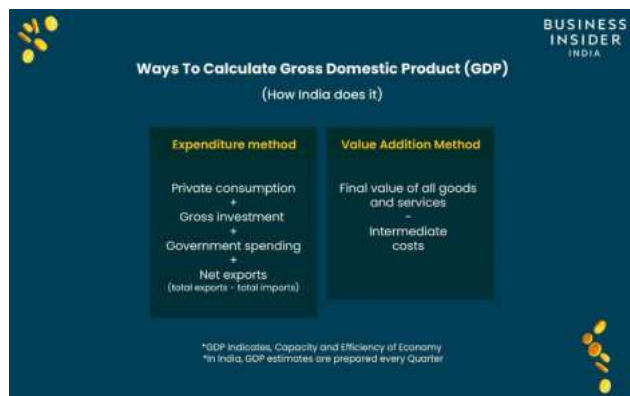
What is GDP?

Gross domestic product (GDP) is the **total monetary or market value of all the finished goods** and services produced within a country's borders in a specific time period.

- India's GDP is calculated by the [Central Statistics Office \(CSO\)](#), which is part of the Ministry of Statistics and Program Implementation (MoSPI).

How is it Calculated?

India's GDP is calculated with two different methods, **one based on economic activity** (at factor cost), and the **second on expenditure** (at market prices). The factor cost method assesses the performance of **eight different industries**. The expenditure-based method indicates **how different areas of the economy are performing**, such as trade, investments, and personal consumption.



Accurate GDP measurement matters because it:

- Reflects True Growth:** It represents India's economic growth accurately.
- Captures New Activities:** Ensures inclusion of new economic activities and private initiatives.
- Informs Policy:** Essential for effective policymaking and achieving the goal of a \$5 trillion economy.
- Attracts Investments:** Enhances India's global image and can attract foreign investments.
- Encourages Citizen Participation:** Informs citizens, fostering cooperation toward economic goals.

To improve GDP measurement:

Improvements	Actions
Update Base Year	Update the base year to capture new economic activities.
Use New Data Sets	Utilize GST and digital payment data for accuracy.
Implement Supply Use Tables	Use supply use tables to reconcile statistics.
Initiate Revision Process	Start the base year revision promptly.
Form Advisory Committees	Create expert committees to guide the process.
Publish Relevant Surveys	Share results of surveys, like consumer expenditure.

However, there are still limitations to the GDP method of calculating growth:

GDP Limitations	Issues with GDP
Not a Welfare Measure	GDP doesn't measure overall well-being or happiness.
	Simon Kuznets, who developed the concept of GDP, warned it was not a suitable measure of a country's economic development
Weak Relationship Between Growth and Employment	State of Working India (SWI 2023) report indicates that the connection between GDP growth and employment in India is weak . Growth in GDP doesn't assure proportional job creation.
	The same report says that the employment benefits of growth aren't equally shared among genders, castes, or religions.
No Adjustment for Leisure Time	Ignores differences in work hours and leisure time.
Misses Home Production	Doesn't account for informal or home-based economic activity .
Income Distribution	Doesn't reflect income distribution within a country.

Ignores Pollution Costs	Fails to factor in environmental or social costs.
Fails to Measure Human Well-Being	Doesn't encompass aspects like happiness or community.
Unequal Progress	Doesn't address wealth inequality and social disparities.
Ignores Non-Monetized Activity	Doesn't value activities like volunteering or housework .
Neglects Sustainability	Doesn't account for the environmental impact of growth.

Suggestions for alternatives to GDP:

Suggestions
Explore the use of Green GDP to account for environmental factors.
Explore alternatives to GDP such as OECD's "GDP alternatives" that adjust for leisure and other factors.
Consider the " Index of Sustainable Economic Welfare " that accounts for pollution costs and income distribution.
Explore the " Genuine Progress Indicator " that adjusts for income distribution, household work, and more.
Explore well-being measures like the Happy Planet Index , Gross National Happiness , and National Well-Being Accounts.

Ways to link GDP growth with better Job Creation in India:

Ways	Description
Focus on Labor-Intensive Manufacturing	Prioritize labour-intensive manufacturing, even for domestic consumption, to boost job creation.
Diversify Growth Strategies	Develop diversified growth strategies that emphasize not just GDP growth but also the creation of high-quality jobs and addressing employment elasticity.
National Employment Policy	Implement a National Employment Policy to address both labour supply and demand, enhancing the quantity and quality of employment opportunities.
Explore Green Manufacturing	Explore opportunities in green manufacturing to reshape India's industrial development in a sustainable manner.
Address Structural Issues	Tackle structural issues in the economy related to caste, gender, and religion to ensure equitable distribution of growth benefits.

Insta Links:

[Whose GDP is it anyway?](#)

Mains Links:

Q. What is Gross Domestic Product (GDP)? Examine the limitations pertaining to GDP as an economic performance measurement framework of the country. (250 words)

Prelims Links:

Q. Consider the following statements:

1. Nominal GDP is calculated in a way such that the goods and services are evaluated at some constant set of prices.
2. If the Real GDP changes, it implies that the volume of production is undergoing changes.
3. The ratio of nominal GDP to real GDP gives us an idea of how the prices have moved from the base year to the current year.

Which of the above statements is/are correct?

- a) 1, 2
- b) 1, 3
- c) 2, 3
- d) 1, 2, 3

Solution: c)

Topics: Major crops cropping patterns in various parts of the country, different types of irrigation and irrigation systems storage, transport and marketing of agricultural produce and issues and related constraints; e-technology in the aid of farmers.

2. DR M S SWAMINATHAN: FATHER OF INDIA'S GREEN REVOLUTION

Context:

Mankombu Sambasivan Swaminathan ([MS Swaminathan](#)) (1925 to 2023) who passed away recently, played a crucial role in **heralding the Green Revolution** that helped India combat food insecurity

Timeline of Dr M S Swaminathan's life:

Year	Milestones
1925	Born in Kumbakonam, Madras Presidency
1940s	Pursued higher education in zoology and agriculture
1947-1949	Joined Indian Agricultural Research Institute (IARI)
1954	Collaborated with Dr Norman Borlaug on wheat
1979-1982	Appointed director-general of the Indian Council of Agricultural Research (ICAR)
1982	Became Director General of the International Rice Research Institute
1987	Awarded the first World Food Prize

1988	Established M S Swaminathan Research Foundation
2002	Elected President of Pugwash Conferences
2004	Chair of the National Commission on Farmers
2007-2013	Served in Rajya Sabha, introduced Women Farmers' Bill

Key contributions of M S Swaminathan:

Aspects	Contributions
Led India out of 'Hunger Trap'	Played a major role in introducing the Green Revolution in India, significantly increasing food production and ensuring food security.
Research on Crops	Enhanced crop productivity: Conducted research on transferring genes for fertilizer response from Japonica varieties to Indica varieties, enhancing crop productivity.
	Dwarf variety of Wheat: Collaborated with Norman Borlaug to develop high-yielding dwarf wheat varieties suitable for Indian conditions.
	Developing high-yielding Basmati rice varieties, innovative use of mutation technology for various crops
	Raised awareness about the importance of sustainable agriculture, genetics , and breeding in improving crop varieties.
	Launched programs like " lab to land "
Fair Minimum Support for Farmers	Served as the head of the National Commission on Farmers and recommended fair minimum support prices for farmers' crops.
	Focus on nutrition, biofortification, funding for agriculture, precision farming, and promoting women in agriculture
Leadership	His leadership at the International Rice Research Institute (IRRI) led to advancements in rice cultivation, including C4 carbon fixation capabilities and high-yielding Basmati rice
	Swaminathan is hailed as a true visionary and pioneer in agriculture and sustainable development

Contributions to [Kuttanad](#) and Kerala's biodiversity:

- **Kuttanad Package:** The over ₹1,800-crore Kuttanad Package, recommended by the M.S. Swaminathan Research Foundation (MSSRF), recommended declaring the wetland system a '**Special Agricultural Zone**,' protecting water spread areas, modernizing infrastructure, and encouraging short-duration pad-

dy varieties.

- **Biodiversity Conservation:** The MSSRF's 2008 report on the Idukki District (the Idukki Package) and the establishment of the '**Community Agrobiodiversity Centre**' in Wayanad reflected his commitment to biodiversity conservation.
- He advocated **public awareness, community participation**, and economic incentives for in situ and on-farm conservation traditions.

Key scientific terms associated with Dr M S Swaminathan's research and the Green Revolution

Term	Description
Green Revolution	A period of rapid, scientific agricultural advancement in the mid-1960s that involved growing high-yielding, disease-resistant varieties of crops, primarily in Punjab, India. Dr. Swaminathan played a key role in this movement.
High-Yielding Varieties of Crops (HYVs)	These crops produce a higher yield per hectare compared to traditional variants. They are often disease-resistant and have increased tolerance to conditions like drought. Examples include IR8 rice and Kalyan Sona wheat .
Yield Gap	The difference between the potential maximum yield of a crop and the actual realized yield for a given area. Addressing this gap was a focus of the Green Revolution to increase productivity .
Cytogenetics	The study of chromosomes and their relation to hereditary characteristics and traits, including identifying traits like disease resistance and drought tolerance in crops.
Hexaploid Wheat	Scientifically known as Triticum aestivum , it contains six sets of chromosomes and is widely cultivated . Dr. Swaminathan conducted research on the cytogenetics of hexaploid wheat.
Carbon Fixation	The process by which crops capture carbon dioxide from the atmosphere and convert it into organic compounds through photosynthesis. It's important for plant growth and productivity .
C3 and C4 Photosynthetic Pathways	Two different pathways for carbon fixation . C3 (Calvin cycle) is slower and occurs when leaf pores are open . C4 is more efficient and occurs in both mesophyll and bundle sheath cells. Research on C4 rice was conducted during Dr Swaminathan's tenure .

Conclusion:

His passing marks the end of an era of disruptive innovation in agricultural research, education, and extension, and he is regarded as a figure worthy of admiration and respect by all citizens, particularly those who benefit from his contributions to food security and agriculture.

Insta Links:

[Delhi To Introduce MSP based on Swaminathan Commission Report](#)

Mains Links:

Q. How has India benefited from the contributions of Sir M Visvesvaraya and Dr M S Swaminathan in the fields of water engineering and agricultural science respectively? (UPSC 2019)

3. GREEN REVOLUTION: M S SWAMINATHAN

Context:

The Green Revolution, led by [Norman Borlaug \(Father of Green Revolution in the World\)](#) and **M S Swaminathan**, introduced **high-yield variety seeds in the 1960s**, boosting food grain production, especially wheat and rice.

- Borlaug won the **Nobel Peace Prize in 1970** for this.

Need for Green Revolution in India:

The [Bengal Famine of 1943](#) caused a massive food crisis, leading to **4 million deaths**. Post-independence, India focused on expanding farming, but population growth outpaced food production. Despite the creditable growth of agricultural output between 1949 and 1965, India has been facing **food shortages** since the mid-1950s. India was dependent on food imports from Western countries at a **subsidised rate**

Elements of Green Revolution in India:

Element	Description
Expansion of Farming Areas	The Green Revolution supported the quantitative expansion of farmlands to meet rising agricultural demands.
Double-crop System	Introduced two crop seasons annually instead of one, with the help of irrigation projects and dam construction.
Using seeds with improved genetics	Utilized high-yield variety seeds, mainly for wheat and rice, developed by the Indian Council for Agricultural Research.
Important Crops in the Revolution	Main crops included Wheat, Rice, Jowar, Bajra, and Maize, with a focus on food grains, particularly wheat.

Positive Impact of Green Revolution:

Positive Impact	Description
Crop Yields	Crop yields per acre grew at 2.5% per year between 1967-68 and 1989-90

Food Production	Pro-duction	Foodgrain production increased by 35% between 1967-68 and 1970-71
		India achieved self-sufficiency in food production and built buffer food stocks.
		Exported food to pay back loans and provide assistance to food-deficit countries.
		Generated a rapid increase in the marketable surplus of food grains.
Private Investment	In-vestment	It primarily boosted wheat production , increasing it over threefold from 1967-68 to 2003-04, while overall cereal production doubled
		Public investment, credit, and new technology boosted profitability for private farmers.
		Total gross capital formation in agriculture increased, leading to more investments.
Agricultural Growth Rate	Growth Rate	Growth in the gross irrigated area increased significantly.
		Green Revolution contributed to India's sustained high rate of agricultural growth.
Crop Area Expansion	Area Expansion	Shifted growth from increasing land area to improving yields.
		Significant growth in the area under high-yielding varieties of wheat and rice
Rural Employment	Em-employment	Generated jobs for agricultural and industrial workers due to multiple cropping and fertilizers

Negative Impacts of the Green Revolution:

Impact	Description
Non - Food Grains Neglected	Focus on wheat, rice, and limited crops, neglecting coarse cereals, pulses, and oil-seeds.
Regional Disparities	Uneven adoption, affecting only certain areas, worsening regional disparities in development.
Excessive Chemical Usage	Widespread use of pesticides and fertilizers without proper education or precautions.
Water Consumption	Introduction of water-intensive crops depleting groundwater , particularly in regions like Punjab.
Soil and Crop Production	Depletion of soil nutrients , increased fertilizer usage , pH level changes, and yield decline.
Unemployment	Farm mechanization causes rural unemployment , particularly affecting poor labourers.
Health Hazards	The use of toxic chemicals leads to health issues, including cancer, birth defects, and more.

Negative Impact of Green Revolution on the agrarian society:

Impact	Details
Rising Inequality	In Green Revolution areas, medium and large farmers benefited the most while Small and marginal farmers couldn't afford expensive inputs , exacerbating inequality. Commercialization of agriculture favoured farmers with resources
Increased Poverty Conditions	Rich farmers benefited while landless and marginal holders faced worsened poverty. Displacement of tenant cultivators as land-owners took back land for cultivation.
Rising Class Differences	The introduction of machinery led to the displacement of service caste groups, thereby resulting in increasing differences in terms of class and caste
Social Violence	The Green Revolution altered social interactions, highlighting caste and class inequalities. Exploitative labour relations and disparities contributed to social violence, including inter-caste conflicts.

Government Initiatives for Green Revolution:

Green Revolution Krishonnati Yojana:

Introduced by the Indian government in 2005	
Aims to develop agriculture and allied sectors scientifically to increase farmer income.	
Comprises 11 schemes and missions under a single umbrella:	Mission for Integrated Development of Horticulture (MIDH)
	National Food Security Mission (NFSM)
	National Mission for Sustainable Agriculture (NMSA)
	Sub-Mission on Agriculture Extension (SMAE)
	Sub-Mission on Seeds and Planting Material (SMSP)
	Sub-Mission on Agricultural Mechanization (SMAM)
	Sub-Mission on Plant Protection and Plant Quarantine (SMPPQ)
	Integrated Scheme on Agriculture Census, Economics, and Statistics (ISACES)
	Integrated Scheme on Agricultural Cooperation (ISAC)
	Integrated Scheme on Agricultural Marketing (ISAM)
	National e-Governance Plan in Agriculture (NeGP-A)

The Evergreen Revolution:

Proposed by Dr M S Swaminathan
A response to the adverse environmental effects of intensive farming during the Green Revolution.
Aims to increase productivity in an environmentally safe, economically viable, and socially sustainable way .
Involves integrating ecological principles into technology development and dissemination.

Conclusion

In all, despite the gaps in the **Green Revolution** (which are now being balanced with sustainable agricultural patterns), it was a **necessary step to meet the challenges** of the Indian economy, population and agriculture in the post-independence growth years.

Insta Links:

[Delhi To Introduce MSP based on Swaminathan Commission Report](#)

Mains Links:

Q. How has India benefited from the contributions of Sir M Visvesvaraya and Dr M S Swaminathan in the fields of water engineering and agricultural science respectively? (UPSC 2019)

Topics: Effects of liberalization on the economy, changes in industrial policy and their effects on industrial growth.

4. WTO: AGREEMENT ON INVESTMENT FACILITATION FOR DEVELOPMENT (IFA)

Context:

Recently (July 2023) over 110 (it does not include India) of the WTO 164 members concluded text-based negotiations on the [Agreement on Investment Facilitation for Development \(IFA\)](#)

What is the Agreement on Investment Facilitation for Development (IFA)?

The Agreement on Investment Facilitation for Development (IFA) is a **WTO-negotiated agreement designed** to create a more **investor-friendly business environment** by simplifying investment procedures and promoting transparency and predictability for **foreign direct investment (FDI)**, particularly in developing and least-developed countries.

- It is meant to **create legally binding provisions** aimed at facilitating investment flows.

What IFA doesn't cover?

- IFA does not cover areas like market access, investment protection, government procurement, specific subsidies, or investor-state dispute settlement

(ISDS).

- In essence, the IFA is **not aimed at liberalising investment policies**. Its objective is to **simplify investment procedures**.

Investment facilitation and Investment promotion:

The difference between investment facilitation and investment promotion is that **promotion focuses on presenting a location** as an attractive investment destination, while facilitation aims to **simplify the process for foreign investors** to establish or expand their businesses by addressing practical challenges they may face.

Reasons for India's Non-Participation in IFA Talks:

Reasons	Description
WTO's Mandate	India believes that investment matters are beyond the WTO's scope and prefers bilateral negotiations for investment provisions.
Concern About Developed Nations' Strategy	India views the IFA as a step by developed nations to introduce investment facilitation in the WTO, potentially followed by contentious investment protection rules later on.
Opposition to Plurilateral Agreements	India opposes plurilateral agreements within the WTO , as they do not follow the consensus decision-making process.
Concerns About 'Most Favoured Nation' (MFN) Provisions	India is wary of including MFN provisions in the IFA due to past negative experiences, including repercussions faced after including an MFN provision in its Australia Bilateral Investment Treaty (BIT).
Legally binding dispute settlement	<p>The apprehension that foreign investors could use a future IFA to bring claims under the existing BITs.</p> <p>India has terminated its older bilateral investment treaties (BITs) and is in the process of negotiating new agreements based on its 2016 Model BIT text.</p>

About WTO:

World Trade Organization (WTO) is a member-driven, consensus-based intergovernmental organisation that regulates and facilitates international trade between nations. It officially began operations on **January 1, 1995**, in accordance with the **1994 Marrakesh Agreement**.

Issues and limitations of WTO:

Issues	Examples
--------	----------

Outdated Rulebook	TRIPS does not address digital piracy and online copyright infringement effectively.
Ineffective Dispute Settlement	The US-China dispute over tariffs and trade practices remains unresolved after years.
Divergent Member Interests	Disagreements on agricultural subsidies due to differing positions of developed and developing countries.
Lack of Enforcement Power	China's intellectual property rights violations persist despite WTO rulings.
Limited Scope of Agreements	GATS doesn't cover new digital service modes adequately.
Non-Inclusion of Developing Countries' Concerns	Doha Development Round didn't address issues like agricultural subsidies and market access for developing countries.
Lack of Transparency	TiSA negotiations were criticized for secrecy and potential influence by powerful countries.
Failure to Address Trade Imbalances	The trade deficit between the US and China has led to tensions and disputes.
Limited Capacity Building	Developing countries struggle with compliance due to inadequate capacity building.
Inability to Adapt to Changing Global Dynamics	Rapid e-commerce growth poses challenges not adequately addressed by existing WTO rules.

Despite these limitations, WTO is still relevant:

Areas of Contribution	Explanation	Examples
Promoting Trade Liberalization	Reduction of global tariffs, leading to increased market access.	WTO's efforts resulted in the reduction of global average tariffs on industrial goods from 7.0% in 1996 to 3.4% in 2017 .
Settling Trade Disputes	Resolving trade disputes among member countries.	WTO facilitated the resolution of the US-EU aircraft manufacturing subsidies dispute.
Providing Technical Assistance	Supporting developing countries in improving trade capacities.	WTO's Aid for Trade initiative aids developing countries.

Facilitating Trade Negotiations	Providing a platform for trade negotiations and issue resolution.	WTO's Trade Facilitation Agreement simplifies customs procedures.
Safeguarding Intellectual Property Rights	Establishing a framework for global protection of IP rights.	WTO's Agreement on TRIPS promotes IP rights enforcement.

Way forward:

- **Updating Rules:** Revise and modernize trade rules to encompass digital trade, services, and other emerging sectors.
- **Flexibility in Negotiations:** Recognize the diverse needs of member countries, allowing for flexible negotiations on specific issues.
- **Henry Gao argues** that countries have to elect the appellate body members by resorting to voting at the WTO's General Council meeting.
- **Transparency:** Improve transparency in trade practices and negotiations to build trust among member countries.
- **Launch negotiations to address the intertwined issues** of agricultural subsidies and market access, while recognising that food security concerns will not disappear.

Conclusion

The World Trade Organization remains an indispensable organisation but it requires urgent modernisation. Members have to face the reality that the organisation requires non-cosmetic, serious root-and-branch reform for a WTO adapted to 21st-century economic and political realities.

Insta Links:

- [TFA](#)
- [Restoring the WTO's dispute settlement system](#)

Mains Links:

Q. What are the key areas of reform if the WTO has to survive in the present context of the 'Trade War', especially keeping in mind the interest of India? (UPSC 2018)

Prelims Links: (UPSC 2015)

Q. The 'Fortaleza Declaration' recently in the news, is related to the affairs of:

1. ASEAN
2. BRICS
3. OECD
4. WTO

Ans: 2

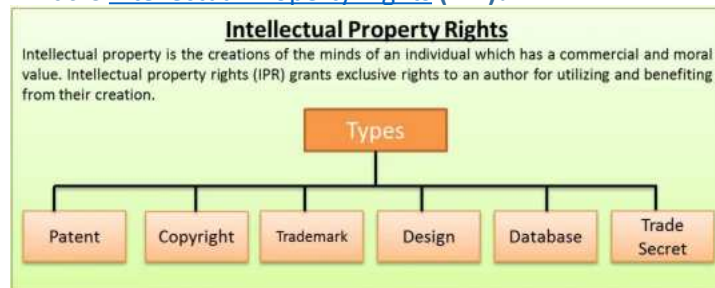
Topics: Science and Technology- developments and their applications and effects in everyday life Achievements of Indians in science & technology; indigenization of technology and developing new technology.

5. THE DRAFT PATENTS (AMENDMENT) RULES, 2023

Context:

The government has released Draft Patents (Amendment) Rules, 2023 rule, under the Patents Act of 1970.

What is Intellectual Property Rights (IPR)?



What are Patents?

Patents are **government-issued exclusive rights that grant inventors or assignees** the sole authority to utilize, make, sell, or license their invention for a limited period, **typically 20 years**.

- Patents are granted for **new and useful inventions** and are intended to encourage innovation by providing **legal protection and exclusive rights** to inventors.
- **Granted by:** Controller General of Patents, Designs and Trade Marks (**CGPDTM**) under the DPIIT (Ministry of Commerce & Industry)
- Patents in India are governed by "[The Patent Act 1970](#)," which was amended in 2005 to comply with **TRIPS** (Trade-Related Aspects of Intellectual Property Rights).

Criteria for issuing patents in India include:

- **Novelty:** The invention must be new and not previously published or publicly known or used in India.
- **Non-Obviousness:** It should involve an inventive step, representing a technical advancement compared to existing knowledge, and not obvious to a person skilled in the relevant field.
- **Industrial Use:** The invention should be capable of industrial application.

What Cannot Be Patented in India:

Items	Description
Frivolous Inventions	Inventions that harm public order, morality, or the health of animals, plants, and humans.
Methods of Agriculture or Horticulture	Generally excluded from patentability.
Traditional Knowledge	Inventions based solely on traditional knowledge are not eligible for patents.

Computer Programs	Pure computer programs are typically not patentable.
Inventions Related to Atomic Energy	Matters related to atomic energy are restricted from patenting.
Plants and Animals	Typically, plants and animals in their natural state cannot be patented.
Mere Discovery of Scientific Principles	Patent protection is not granted for mere discoveries of scientific principles.

Key Provisions of the Draft Patent Amendment Rules:

Key Provisions	Description	Impact of the changes
Pre-Grant Opposition (PGO) filing	Fee: There will be a variable fee for Pre-Grant Opposition (PGO) filing (previously free).	The introduction of dynamic fees for PGO filing may pose financial challenges for smaller groups or individuals interested in opposing patents.
	PGO is a pre-grant opposition filed after patent publication but before its grant.	PGO allows for opposition before patent grants , helping prevent unjust patent protection extensions and promoting access to affordable generic drugs.
	PGO filing, previously open to anyone, will now be determined by CGPDTM .	Determining PGO filing by CGPDTM may bring more structure to the opposition process.
Notice Time Period	The time period for applicants to reply to notice on PGO has been reduced to 2 months .	Reducing the time period for applicants to reply to PGO notices to 2 months may affect the ability to prepare and submit responses effectively
Timeline for Filing Requests for Examination	The timeline for filing Requests for Examination is reduced from 48 to 31 months.	Reducing the timeline for filing Requests for Examination to 31 months may expedite patent examination but put pressure on applicants to prepare quickly.

Working Statements	Working statements are to be submitted once every 3 years by patent holders.	Requiring working statements once every 3 years may reduce the frequency of reporting on patent usage .
Disclosure of Manufacturing Location and Price	Disclosure of the patented product's manufacturing location and price is no longer required.	Eliminating the need to disclose manufacturing location and price may impact transparency in the pharmaceutical industry .

About [The Patents Act, 1970](#)

It was **established in 1972**, and replaced the **Indian Patents and Designs Act, 1911**. In 2005, the Patents (Amendment) Act expanded product patenting to all technology fields, including food, drugs, chemicals, and microorganisms. It repealed **Exclusive Marketing Rights (EMRs)** provisions, introduced compulsory licensing, and included pre-grant and post-grant opposition provisions

Insta Link: [Patents](#)

Mains Links:

Q. How is the Government of India protecting traditional knowledge of medicine from patenting by pharmaceutical companies? (UPSC 2019)

Q. In a globalised world, intellectual property rights assume significance and are a source of litigation. Broadly distinguish between the terms – copyrights, patents and trade secrets. (UPSC 2014)

Prelims Links:

Q. Consider the following statements:

1. Evergreening is the grant of permission by the government to entities to use, manufacture, import or sell a patented invention without the patent owner's consent.
2. Compulsory licensing is a strategy for extending/elongating the term of a granted patent in a jurisdiction that is about to expire, in order to retain royalties from them, by taking out new patents.

Which of the statements given above is/are not correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

Ans: (c)

6. GEOSPATIAL INTELLIGENCE

What is Geospatial intelligence?

It is the **collection and integration of data from various technologies** like satellites, sensors, and aerial images to create real-time maps and simulations. It aids in identifying and managing threats, supporting emergency response, environmental monitoring, logistics, and more.

Geospatial technology uses tools like **GIS** (Geographic Information System), **GPS** (Global Positioning System), and **Remote Sensing** for geographic mapping and analysis of Geospatial data.

National Geospatial Policy 2022

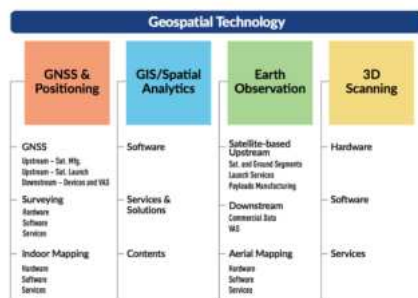
Ministry of Science and Technology has notified the **National Geospatial Policy, 2022**

What is geospatial data?

Geospatial data is used to collect, analyze and store geographic information and the impact of human activity. E.g., static objects such as the location of the road, water, land, or dynamic objects/events such as the spread of disease, earthquake, etc.



Working of Geospatial technology



Vision and Goals of the Geospatial policy:

- Make India a World Leader in Global Geospatial space
- Develop a coherent national Geospatial framework in the country
- Move towards a digital economy and improve services to citizens
- Ensure easy availability of valuable Geospatial data collected
- To involve private enterprise into the Geospatial framework

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Status of geospatial data and technology in India

- India has a **robust ecosystem in geospatial**, with the Survey of India (SoI), the Indian Space Research Organisation (ISRO), Remote Sensing Application Centres (RSACs), and the National Informatics Centre (NIC) in particular, and all ministries and departments, in general, using geospatial technology.
- In 2021, the geospatial market was dominated by defence and intelligence (14 %), urban development (13 %), and utilities (11 %) segments, cumulatively accounting for 38% of the total geospatial market.

Key applications of geospatial intelligence:

Application	Description
Emergency Preparedness	Monitoring natural disasters such as Cyclones, and hurricanes to allocate resources efficiently, issue timely storm warnings, and order evacuations as needed.
Disaster Response	Assisting in post-disaster efforts by identifying damaged areas , assessing the extent of impact, locating access points for first responders, facilitating efficient search-and-rescue operations and the distribution of aid.

Environmental Monitoring	Tracking climate-related variables like temperature , precipitation, and ice to anticipate and prepare for environmental disturbances, including heat-waves, floods, and polar ice melt.
Military and Civilian Applications	Reporting on military movements, and troop deployments , and providing valuable spatial data for civilian applications such as global supply chain optimization and logistics management.
Transportation and Logistics	Utilizing GPS-generated spatial data to enhance transportation and logistics operations
Autonomous Vehicles	Supporting the development of autonomous vehicles by offering high-resolution imagery for road analysis, and traffic management.
Digital Twins	Creating virtual replicas of real-world systems , such as cities and buildings, which can be updated in real-time to simulate changes in various conditions, aiding decision-making across different sectors , including military and urban planning.

Measures for the Development of Geospatial Data and Technology:

Measures	Description
Guidelines for Geospatial Data, 2021	Released by the Ministry of Science and Technology in 2021. Deregulated and liberalized the Geo-Spatial Sector in India, making it more competitive. Eliminated the requirement of permissions and scrutiny , even for security concerns for Indian Companies. Companies can now self-attest, conforming to government guidelines without continuous monitoring by a government agency.
Geospatial Energy Map of India	Developed in collaboration with NITI Aayog and ISRO Provides a comprehensive view of energy production and distribution in the country. Aids in planning and investment decisions and supports disaster management using available energy assets.
Union Budget 2022-23	Government support for the use of Kisan drones for land assessment, digitization of land records, and spraying insecticides and nutrients.

National Geospatial Policy, 2022	The 13-year guideline promotes the country's geospatial data industry and develops a national framework to use such data for improving citizen services, and more
Yuktahara portal	Serves as a repository of geotagged assets created under various National Rural Development Programs , including MGN-REGA, Per Drop More Crop Programs, Integrated Watershed Management Programme, and Rashtriya Krishi Vikas Yojana.

Limitations of using Geospatial technology:

- **Hacking information** – The primary reluctance to share stems from the concern that terrorists or criminals could use such information.
- **Privacy issue** – India doesn't have a dedicated data protection policy in that context use of Geospatial data may cause privacy issues.
- **Lack of data availability and sharing constraints** – The unavailability of foundation data, especially at high resolution, is also a constraint. Further, the lack of clarity on data sharing and collaboration prevents co-creation and asset maximization.

Measures to be taken for improvement.

- **Trained and dedicated team** to use geospatial data
- **Funding to enhance the application** of geospatial technology
- **Privacy needs to be considered** while using Geospatial data.

Conclusion

Today the availability of using high-resolution satellite imagery creates a positive environment on the significance of this technology for monitoring integrated systems in different areas of national security purposes. Thus, geospatial technology reduces the analysis time and improves the capability and efficiency in decision-making for national security issues.

Insta Links: [Geospatial data policy liberalized](#)

Mains Link

Q. Democratizing geospatial data will enable the rise of new technologies & platforms that will drive efficiencies in agriculture and allied sectors. Discuss (15M)

Q. What is Geo-Spatial data? Comment upon the present Policy on Geospatial Data in the country while emphasizing the liberalization aspect (10M)

GENERAL STUDIES – 4

1. EXAMPLES OF ETHICS (BOYCOTT OF JOURNALISTS, RUPERT MURDOCH, AND TRUST DEFICIT IN MEDIA)

Example 1: Boycott of Journalists

India's Opposition parties have decided to **boycott 14 prominent news anchors** accused of "**partisanship and hate-mongering.**"

Ethical issues concerned with such a boycott:

Ethical Issue	Description
Targeting Individuals	Naming and boycotting specific news anchors can be seen as a form of personal targeting rather than addressing broader systemic issues in journalism (such as quality and credibility of journalism)
Lack of Due Process	Boycotting anchors without a transparent and fair due process raises questions about fairness, justice, and the right to defend oneself against allegations.
Freedom of Expression	Limiting access to news anchors may be perceived as a restriction on freedom of expression , both for the anchors themselves and for those who wish to hear their perspectives.
Impact on Media Landscape	Over-personalization of journalism and targeting specific anchors
Transparency and Accountability	The process of determining which anchors to boycott , and the criteria used, should be transparent and accountable to avoid favouritism or bias.

Suggestion: Instead of targeting specific anchors, the focus should be on addressing hate and bias in journalism through public and political debate.

Example 2: Rupert Murdoch and trust deficit in media

Context: Rupert Murdoch, creator of Fox News, steps down as head of News Corp. and Fox Corp

Rupert Murdoch led to a **trust deficit in media** primarily revolving around his media empire's practices and **their impact on journalism** and public perception.

Key issues are:

- **Phone-Hacking Scandal:** Journalists at **Murdoch's News of the World tabloid** had illegally hacked into the **phones of various individuals**, including celebrities and crime victims, to gather stories.
 - This **unethical and invasive practice** not only violated privacy but also undermined trust in the media as a whole.
- **Ethical Breaches:** Murdoch's media outlets faced allegations of ethical breaches, such as **biased reporting and sensationalism**.
 - **Ethical issues of prioritizing profit and sensationalism over responsible journalism**, erode the public's trust in the credibility of news reporting.
- **Influence on Editorial Independence:** There were allegations that editors and journalists working for Murdoch's companies were pressured to align their reporting with his political and business interests.
- **Monopoly Concerns:** Murdoch's media holdings included a vast array of newspapers, television networks, and other media platforms. Some argued that this media monopoly allowed him to **control a significant portion of the news landscape**, limiting diversity of perspectives and potentially **skewing public discourse**.

Mains Links:

Q. Today we find that in spite of various measures like prescribing codes of conduct, setting up vigilance cells/commissions, RTI, active media, and strengthening legal mechanisms, corrupt practices are not coming under control. (UPSC 2015)

- (a) Evaluate the effectiveness of these measures with justifications.
 (b) Suggest more effective strategies to tackle this menace.

Example 3: Anti-Smoking Warnings on OTT platforms

Should films and TV series on OTT platforms like Hotstar, Amazon and Netflix have long-duration smoking warnings?

The central government had issued new rules on the matter in May (2023), but streaming websites had raised some objections

Legal perspective: The **Cinematograph Act of 1952** prohibited the "**glamorization**" of tobacco in movies, and the **Cable Television Networks Amendment Act of 2000** banned tobacco advertising on cable TV.

Ethical Perspectives:

Ethical Dilemma	Description
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Freedom of Expression vs. Public Health	Balancing filmmakers' freedom of expression with the need for anti-smoking warnings to protect public health.
Health Awareness vs. Artistic Integrity	Balancing raising awareness of smoking's health risks with preserving the artistic integrity of content
Corporate Interests vs. Public Health	Considering tobacco industry interests versus broader public health goals.
Cultural Sensitivity vs. Regulation	Applying Indian regulations to international content raises questions about cultural sensitivity and ethics

Example 4: "Humans of Bombay vs. People of India"

The case involves a **copyright infringement suit filed by Humans of Bombay (HOB)** against People of India (POI), an Instagram account that tells stories of common people similar to HOB.

The Delhi High Court issued a summons to POI, acknowledging **substantial imitation of HOB's** storytelling and identical or imitative use of images on both platforms.

Ethical Issues concerned:

Ethical Issue	Description
Copyright Violation	Ethical concerns about the unauthorized use of HOB's creative content by POI, potentially infringing on intellectual property rights.
Goodwill and Reputation	The use of a similar format to capitalize on the goodwill and reputation built by HOB potentially harms fair competition and integrity
Social Media Ethics	Considerations about ethical behaviour on social media platforms, including respecting the creative efforts of others.
Economic Implications of Reputation	Ethical discussions on how the use of HOB's content by POI could have economic implications and affect HOB's sustainability.

Terms Used:

Copyright Infringement: Copyright refers to the rights given to creators of various works.

Passing Off: It involves situations where the **nature, character, or performance of rival goods or services are similar**, causing deception, misrepresentation, or harm to the goodwill of the original creator. To claim passing off, there must be an attempt to obtain an economic benefit from **another's reputation**.

2. LESSONS FROM THE LIFE OF M S SWAMINATHAN

Life lessons and ethical values that can be gleaned from the life of M S Swaminathan:

Lessons	Explanation
1. Dedication to a Cause	Swaminathan's unwavering dedication to improving Indian agriculture and ensuring food security
2. Commitment to Research	Swaminathan's commitment to scientific research and innovation underscores the value of persistent effort and continuous learning .
3. Philanthropy	His generous donations of award money and land for the betterment of society (e.g., Kuttanda Package) demonstrate the importance of giving back and supporting charitable causes.
4. Gender Equality	Swaminathan's focus on the role of women in agriculture highlights the need for gender equality and the recognition of women's contributions in all fields.
5. Environmental Stewardship	His early work on climate change and agriculture reminds us of the ethical responsibility to protect the environment and address climate-related challenges.
6. Collaboration	Swaminathan's collaboration with experts and policymakers emphasizes the value of working together to achieve significant goals.
7. Practical Application	His practical approach to scientific knowledge encourages us to apply what we learn for the benefit of society and the environment.
8. Persistence in the Face of Challenges	Swaminathan's dedication to his mission , even in the face of obstacles, teaches us the importance of persistence and resilience.
9. Integrity and Ethics	His ethical conduct and integrity in scientific research and public life serve as a model for ethical behaviour and professionalism.
10. Selflessness	Swaminathan's selfless dedication to the well-being of others highlights the value of prioritizing the greater good over personal gain.
Visionary contributions and forward-thinking approach	

These life lessons and ethical values from M.S. Swaminathan's life can inspire individuals to make positive contributions to society and uphold ethical principles in their own endeavours.

CONTENT FOR MAINS ENRICHMENT

1. IMMUNIZATION WHEEL

Context:

In Uttar Pradesh, the **introduction of an immunization wheel** has significantly improved the **efficiency of accredited social health activist (ASHA) workers**, contributing to a high rate of vaccine coverage for newborns.

What is the Immunization Wheel?

The Immunization Wheel is a simple tool consisting of two discs, one with **vaccine details** and the other with a **calendar**. Health workers use it to **calculate vaccination dates** for newborns, making the process more efficient and accurate.

Funded by the Clinton Foundation, the Immunization Wheel simplifies vaccination date calculations. **ASHA workers** use it to **link a child's birthdate to vaccines**, automatically providing dates for the remaining dates for the first year of life.

Success:

This tool has boosted **vaccine coverage to 95% in the first year** and improved parent communication, enhancing immunization success in Uttar Pradesh.

Usage:

The example can be used as a way forward in health-related questions.

2. ABDUL AHAD KHAN

He is residing in Kashmir's Nagri village and has dedicated the **past decade to saving the majestic chinar trees**. He starts his day early, **tending to chinar saplings** in the Band Wader forest area. Khan has nurtured **around 1,500 chinar saplings** into tall, healthy trees.

Chinar trees are significant in Kashmir for their beauty, shade, habitat provision, and environmental benefits. Khan's mission began in 2010 when he **noticed deforestation** in an elevated area. He decided to protect nature by planting chinar trees.

Usage:

The example can be used to show the values of **Environmental Stewardship; Selflessness** (He selflessly invests his time, effort, and personal resources); Education and Awareness (Khan's actions raise awareness about the importance of chinar trees and environmental conservation)

About Chinar Tree:

Chinar trees are **large deciduous trees** known for their **longevity** and vibrant foliage. In autumn, its green leaves trans-

form into **shades of red, amber, and yellow.**

The chinar holds cultural significance in Kashmir. Muslim Kashmiris believe it was brought by Islamic preachers from Iran, while Hindu Kashmiris associate it with Hindu goddess **Bhavani**. It is the **State tree** of the Union territory of Jammu and Kashmir

About Thirumurai:

Tirumurai is a twelve-volume compendium of songs or hymns in praise of Shiva in the Tamil language from the 6th to the 11th century CE by various poets (Nayanars) in Tamil Nadu.

The twelve books are:

Tirumurai	Hymns	Period	Author(s)
1, 2, 3	Tirukadaikkappu	7th century CE	Sambandar
4, 5, 6	Tevaram	7th century CE	Appar
7	Tirupattu	8th century CE	Sundarar
8	Tiruvasakam and Tirukovaiyar	9th century CE	Manikkavacakar
9	Tiruvicaippa and Tirupallantu	9th century CE	Various Authors
10	Tirumandiram	8th century CE	Tirumular
11	Prabandham		Various Authors
12	Periya Pura-nam	12th century CE	Sekkizhar

3. BAL GANGADHAR TILAK AND GANESH CHATURTHI

[Bal Gangadhar Tilak](#) played a pivotal role in transforming the Ganesh Chaturthi festival into a grand community event in India.

Before 1893, **Ganesh Chaturthi was a one-day private observance**. However, Tilak, a prominent nationalist and leader, saw an opportunity to unite and mobilize society against British colonial rule by harnessing **Indian cultural practices**. He initiated the tradition of **public Ganpati worship**, emphasizing **patriotism**, and promoting **nationalist** ideas during the festival.

Negative impact:

While Tilak's efforts were **praised for fostering unity**, he also faced criticism for **potentially adding a communal aspect** to the freedom struggle and holding conservative views on women's emancipation and caste reforms.

Usage: The example can be used to show how culture can be used to unite people. But overemphasis on the culture of one community can be decisive as well. The example also shows the value of Unity, Inclusivity, Nationalism, Respect for Cultural Heritage etc.

4. ODHUVARS

The Government of Tamil Nadu appointed **15 'odhuvars' to government-controlled Hindu temples**, including **five women odhuvars**, a "milestone in the journey for equality."

Who are Odhuvars?

Odhuvars sing **devotional hymns in Tamil Nadu's Hindu temples** but are not priests. They are in the service of **Lord Shiva** by singing his praise from **Thirumurai** in Saivite temples. They sing **devotional hymns** but do not enter the sanctum sanctorum.

Another progressive decision by the Tamil Nadu Government: The recent [appointment of three women priests in the state's temples](#).

Usage:

The example can be used in Qn related to Indian Society/ Women/ Reforms in Religion etc.

5. APPLYING THE "SPONGE CITY" CONCEPT IN BENGALURU

Bengaluru faces **recurrent flash floods due to erratic rains** driven by climate change. Experts suggest applying the ["Spong City" Concept](#) by building massive underground tanks in low-lying areas to capture floodwater, a concept successfully implemented in cities like **Munich, Beijing, Tokyo, and Pittsburgh**.

What is the "Sponge City" concept?

It focuses on **retaining and managing water** at its source to mitigate flooding and groundwater depletion. It involves strategies like **permeable pavements, rooftop gardens, underground tanks and ponds** to absorb and store rainwater.

These measures help **slow down water flow, naturally filter it, and recharge groundwater**. The aim is to make urban areas act **like sponges, soaking up rainwater** and reducing the risk of floods while replenishing local water resources.

For Issues with the "Sponge City"?: [Click Here](#)

Usage: The example can be used in Governance/ Disaster Management Questions.

6. YOUNG ACTIVISTS SUE 32 GOVERNMENTS AT EUROPEAN COURT

Six young Portuguese individuals, aged 11 to 24, are taking 32 governments, including EU member states, to the **European Court of Human Rights (ECHR)**. They accuse these governments of **insufficient action on climate change** and failing to meet the Paris Agreement target to limit global warming to **1.5°C**.

They argue that their fundamental human rights, such as the **right to life, privacy, family life, and freedom from discrimination**, are being violated due to government inaction on climate change.

The case, if successful, could **have legally binding consequences** for the accused governments and is the first of its kind at the ECHR.

Usage:

The example shows the values of Environmental Responsibility, Human Rights, Youth Empowerment and Accountability for Climate Action

7. IYAL VAAGAI FARMER'S MARKET IN COIMBATORE

Iyal Vaagai farmer's market in Coimbatore is an initiative promoting **sustainability** and **organic farming**. It provides a platform for farmers to sell their produce directly to consumers (**farm-to-table market**), avoiding middlemen, and offers a wide range of organic products.

Founded by **Alageswari S** as a **10-year-old environmental movement**, the market encourages **organic farming** and **sustainable living**. It offers a wide range of organic products such as cold-pressed oil, country chicken, millets, fruits, vegetables, and greens, all **sourced directly from farmers**, making prices affordable.

The market encourages **eco-friendly practices**, **reduces plastic usage**, and educates the public, especially children, about sustainable living through various activities and workshops. It also fosters **entrepreneurship in the organic food sector** and serves as a hub for community engagement and cultural activities.

Usage:

The example can be used in Agriculture/ Environment Mains Questions

8. USING GOATS TO PREVENT WILDFIRE

Grazing goats are being used as a **wildfire** prevention strategy in **California**, particularly in areas prone to wildfires. Goat herders **lease goats to city agencies and private clients** to

clear brush and dry vegetation that can fuel fires.

Goats are well-suited for this task because of their ability to **eat woody shrubs**, their dexterous tongues and lips, and their capacity to detoxify compounds, allowing them to consume poisonous plants.

This environmentally friendly approach is gaining popularity as a **sustainable and cost-effective method** for reducing fire risk in regions vulnerable to wildfires. It has been particularly effective in creating **buffer zones between homes and open spaces** to slow down or prevent fires from spreading to residential areas.

Usage:

The example can be used in Disaster Management/ Environment Mains Questions.

9. CRIIO 4 GOOD

Context:

Union Minister Shri Dharmendra Pradhan launched '**CRIIO 4 GOOD**,' a set of **online life skills learning modules**, aimed at promoting **gender equality among girls** and boys.

What is 'CRIIO 4 GOOD'?

It is an **online initiative** launched to **promote gender equality** among girls and boys through a series of **eight cricket-based animation films**. These films teach young boys and girls essential life skills while encouraging their participation in sports.

This initiative, in collaboration with the **International Cricket Council, UNICEF, and the Board of Control for Cricket in India**, was introduced at the Narendra Modi Stadium in Ahmedabad.

The themes of the program include:

- Leadership
- Problem-solving
- Confidence
- Decision-making
- Negotiation
- Empathy
- Teamwork
- Goal setting

, making learning fun and relatable for young audiences. The program aligns with **NEP 2020's focus on gender parity and equal opportunities**.

Usage:

The example can be used in Indian society/ Social Justice/ Education questions as an initiative for empowering youths using sports as a medium.

FACTS FOR PRELIMS

GS-1

1. EXCAVATION IN KEELADI

Context:

Excavations in Keeladi have uncovered two **carnelian beads**, reaffirming the **historical trade connections between Tamil Nadu and the western regions of India**, specifically Maharashtra and Gujarat.

- These carnelian beads, normally found in Gujarat and Maharashtra, were discovered within an urn at a burial site in Konthagai during the excavation.
- Last year, **74 carnelian beads were also unearthed in the same area**, further highlighting the trade links between Tamil Nadu and western India.

Carnelian beads are **small decorative objects made from carnelian gemstones**. Carnelian is a **reddish-brown to orange variety of chalcedony**, a type of **microcrystalline quartz**. These beads are prized for their **vibrant colours** and have been used for **jewellery and ornamental purposes for centuries**.

2. MEWAR SCHOOL OF PAINTING

Mewar School of Painting

About	Description
Mewar miniature painting	The Mewar school of miniature painting, known for vibrant colours, direct emotional appeal and intricate narratives , thrived from the 17th to the 18th century.
Origin	It originated in south-central Rajasthan , parts of Madhya Pradesh, and Gujarat.
Famous works and their significance	Chawand Ragamala series (1605) by Nasiruddin: Earliest dated manuscript In the 18th century, political shifts prompted regional kingdoms to form alliances, resulting in the creation of court scenes portraying the king and his entourage. E.g., "A Royal Hunting Party" (1705-15) influenced by Mughal painting.
Golden Age	The golden age of Mewar painting is considered to be from 1628-1651 A.D. , during the reign of Maharana Jagat Singh.
Notable artists of Mewar school	Allah Baksh : Known for comprehensive depictions of Mahabharata and Gita. Sahibdin : Renowned for portraiture in works like the Rasikpriya series (1630), Gita Govinda (1628), and Ramayana (1649).
Unique feature of Mewari artists	Mewari miniature painters seldom signed their works , similar to European artists during the Renaissance. Only a few names, like Nasiruddin, Manohar, Allah Baksh, and Mansur, have surfaced.
Future prospects	Mewari painting's distinctive style has gained global recognition , with some works being auctioned and appreciated worldwide.

Miniature paintings are small, highly detailed artworks known for their vibrant colors. They originated in the 6th-7th century and aimed to depict reality in a compact form. E.g., Pala Odisha, Jain, Mughal, and Rajasthani school of miniature paintings.

To know more Visit
Insights IAS Daily
Current Affairs

3. INDIA'S FIRST LIGHTHOUSE FESTIVAL

Context:

India's First Lighthouse Festival is set to begin in Goa.

- The festival will take place with the **aim of trans-**

forming historic lighthouses into tourist destinations.

- This festival is a **part of the 'Lighthouse Heritage Tourism' campaign**, which aims to **revamp 75 historic lighthouses across India** and promote them as **tourist spots**.
- The initiative aligns with Prime Minister Narendra Modi's vision to transform these lighthouses into **captivating tourism sites**, showcasing their cultural significance and economic potential.

4. 53RD DADASAHEB PHALKE LIFETIME ACHIEVEMENT AWARD

Waheeda Rehman will receive the **53rd Dadasaheb Phalke Lifetime Achievement Award** for 2021. The award will be presented at the **69th National Film Awards ceremony**.

About Dadasaheb Phalke Lifetime Achievement Award:

It is India's highest cinema honour and is presented annually at the **National Film Awards ceremony by the Directorate of Film Festivals**. It was established in **1969** and was **first awarded to actress Devika Rani**. This award commemorates Dadasaheb Phalke, the director of India's inaugural full-length feature film, "**Raja Harishchandra**," in 1913. The prize includes a **Swarna Kamal (Golden Lotus)** medallion, a shawl, and a cash prize of **10 lakh**.

About Waheeda Rehman:

Waheeda Rehman is an Indian actress regarded as one of **Hindi cinema's most accomplished actresses**. Her accolades include a **National Film Award**, Padma Shri and Padma Bhushan honours and three Filmfare Awards. She is renowned for her roles in iconic Hindi films like "**Pyaasa**," "**Kaagaz ke Phool**," and "**Guide**."

5. SARNA RELIGIOUS CODE

Context:

The Jharkhand Chief Minister has written to the Prime Minister, urging the recognition of the '**Sarna**' religious code for tribal communities in the state.

- The request for the Sarna code as a **separate religious code in the next Census** has been a long-standing demand of tribal groups, and the Jharkhand Assembly passed a resolution for the '**Sarna**' code on November 11, 2021.
- Protecting the traditional religious practices of tribals is crucial, and the demand for a '**Tribal/Sarna Religious Code**' is being raised to ensure the **confidence and identity of the nature-worshipping tribal community**.

About Sarna Religion:

The Sarna religion is a nature-worshipping faith that is also known as "**Sarna Dharma**" or "**Religion of the Holy**

Woods". Followers of the **Sarna religion** pray to trees and hills and believe in protecting forest areas. Their holy grail is "Jal (water), Jungle (forest), Zameen (land)".

The Sarna religion is practised by a majority of the tribal community in Jharkhand. The tribal community celebrates the Sarhul festival, which is the New Year festival, as part of the Sarna religion.

6. TOTO LANGUAGE

Context:

A dictionary titled "**Toto Shabda Sangraha**" is set to be released with the aim of preserving the **Toto language**, which is spoken by a mere **1,600 people** in parts of **West Bengal** bordering **Bhutan**.

About Toto Language:

- The Toto language, a **Sino-Tibetan language**, is primarily spoken orally and is currently written in the **Bengali script**.
- While a **script for Toto** was developed in **2015** by **Dhaniram Toto**, a prominent community member, most **Toto speakers** still use the **Bengali script** or write in **Bengali**.

The **trilingual dictionary** will translate **Toto words** into **Bengali and English**, making it accessible to a wider audience, as the **Toto script** is still in its early stages of development, and the tribe is more familiar with the **Bengali script**.

7. MATANGINI HAZRA

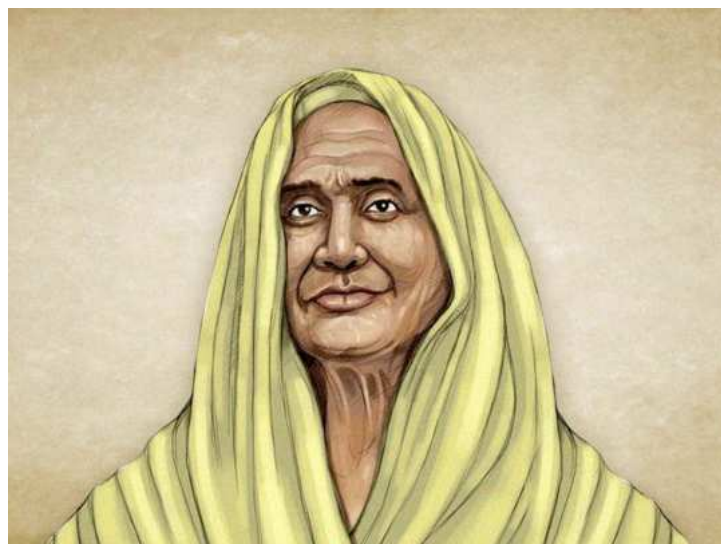
Context:

Matangini Hazra, affectionately known as '**Gandhi Buri**,' was a **dedicated Gandhian** and a prominent figure in the **Indian freedom struggle**.

- She met a tragic end during the **Quit India Movement** in **Tamluk, Bengal**, when she led a protest march against British rule. Her **death** turned her into a **martyr** and marked one of the early casualties of the **Quit India movement**.

About Matangini Hazra:

- **Matangini Hazra** was deeply influenced by **Mahatma Gandhi's message** and charisma, leading her to join the **freedom struggle with great enthusiasm**.
- One noteworthy incident from her life involved a **daring protest march in 1933** when she confronted British authorities in front of the Governor's palace, **holding the freedom movement's flag high and demanding, "Go back, lat sahib."**
- Hazra's involvement in the freedom struggle intensified during the **Quit India Movement of 1942**. At the age of **73**, she led a procession of around **6,000 protesters**, primarily women.
- She was **shot three times** by **British police** while **holding the Indian flag high**.



GS-2

1. FIVE EYES ALLIANCE

Context:

The recent **India-Canada standoff** regarding **allegations of Indian government involvement in the killing of a separatist leader in Canada** has brought attention to the role of the **Five Eyes Alliance**.

About Five Eyes Alliance:

- **Five Eyes Alliance:** The Five Eyes Alliance refers to an **intelligence-sharing partnership** among five countries: the **United States, the United Kingdom, Australia, Canada, and New Zealand**.
- These nations collaborate **closely on intelligence matters**, sharing information to protect their shared national interests.
- **Origins of the Alliance:** The alliance traces its origins back to **World War II** when the **UK and the US** decided to share intelligence after successfully breaking **German and Japanese codes**.
 - It began as the **Britain-USA (BRUSA) agreement**, later evolving into the **UK-USA (UKUSA) agreement**, with **Canada joining in 1949** and **New Zealand and Australia in 1956**.

2. 75% OF VILLAGES ARE NOW ODF PLUS

Context:

India has achieved a **significant sanitation milestone** under the **Swachh Bharat Mission (Grameen) Phase II**, with **75% of villages in the country** now declaring themselves **ODF Plus**.

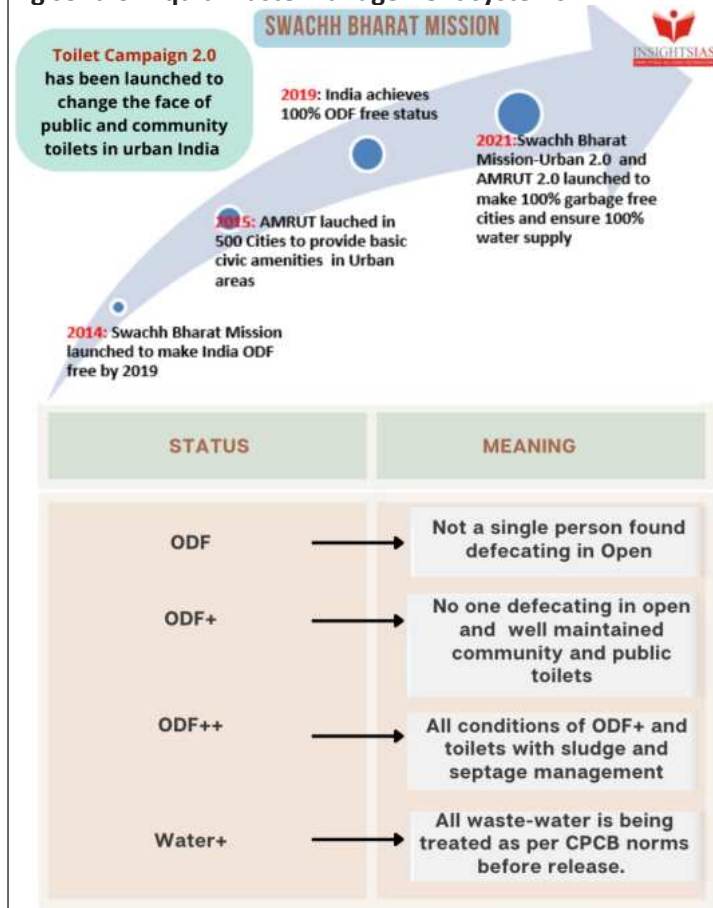
- As of now, **over 4.43 lakh villages** have achieved **ODF Plus status**, a significant step toward the **SBM-G Phase II goals for 2024-25**.
- Several states and union territories have achieved

100% ODF Plus villages, including Andaman & Nicobar Islands, Dadra Nagar Haveli & Daman Diu, Jammu & Kashmir, and Sikkim, which also have 100% ODF Plus Model villages.

- The **Swachh Bharat Mission (Grameen) Phase II** aims to make all villages ODF Plus by 2025.

The achievement of 75% ODF Plus villages demonstrates India's commitment to sanitation and hygiene, moving from ODF to ODF Plus in Swachh Bharat Mission Phase II.

ODF Plus status means that a **village has maintained its Open Defecation Free (ODF) status while also implementing solid or liquid waste management systems.**



3. INDIA-UN CAPACITY BUILDING INITIATIVE

Context:

India and the United Nations have jointly launched the “**India-UN Capacity Building Initiative**,” which aims to share India's development experiences, best practices, and expertise with partner countries in the Global South through capacity-building and training programs.

- This initiative builds upon India's extensive cooperation in development and capacity building with partner countries.
- The initiative complements the existing India-UN partnership through the “**India-UN Development Partnership Fund**”.
- The initiative will operationalize the **development-related goals of India's G20 Presidency**, including the G20 Action Plan for Accelerating Prog-

ress on the Sustainable Development Goals (SDGs) and building Digital Public Infrastructure.

4. WORLD COFFEE CONFERENCE

Context:

The **5th World Coffee Conference (WCC)** was held in Bengaluru, and organized by the **International Coffee Organization (ICO)**, a UN body focused on highlighting the economic importance of coffee.

- It is being held for the **first time in an Asian coffee-producing country.**

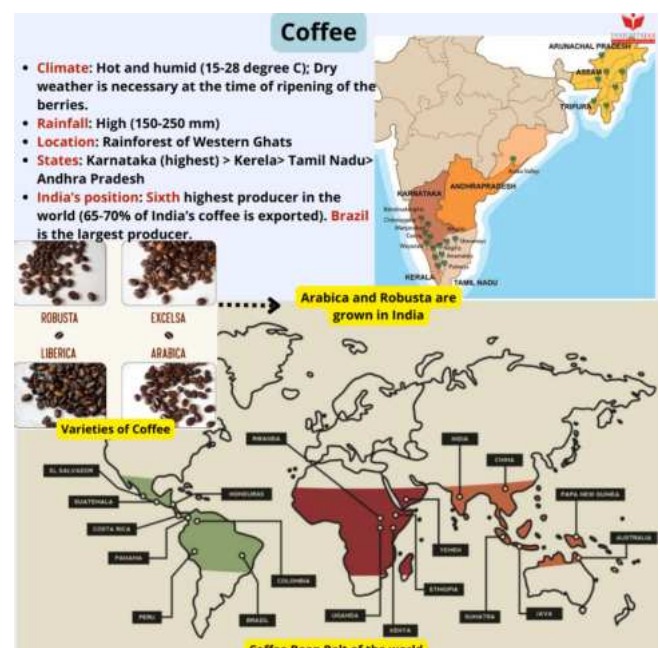
One of the key topics discussed at the conference was “**regenerative agriculture**,” a holistic farming approach that emphasizes **soil health, food quality, biodiversity, water quality, and air quality.**

About Regenerative agriculture:

Regenerative agriculture is a **holistic farming approach** that focuses on improving soil health, biodiversity, and sustainability by minimizing soil disturbance, diversifying crops, using cover crops, and integrating livestock. It aims to **enhance resources rather than deplete them**, by adhering to principles such as conservation tillage, crop diversification, soil cover with cover crops, and integration of livestock.

About ICO:

ICO (established in 1963, under the UN; HQ: London) serves as the only intergovernmental organization for coffee. It administers the **International Coffee Agreement (ICA)**, an important instrument for development cooperation. Aims to **strengthen the coffee sector** and promote sustainable growth for the Global Coffee Value Chain (G-CVC). It is the sole intergovernmental coffee organization, uniting exporting and importing governments. It has **43 exporting members (including India)** and 6 importing members.



5. GITA MITTAL COMMITTEE

Context:

The Supreme Court of India has informed petitioners involved in the [Manipur ethnic violence case](#) that it cannot oversee the administration of the state and encouraged petitioners to place their trust in the Justice Gita Mittal Committee to address the issues.

- These issues include the distribution of Aadhaar cards and disability certificates to displaced individuals, compensation for families of the deceased, reconstruction of religious buildings and homes damaged during the violence, handling of bodies, and the functioning of courts in the state.

Justice Gita Mittal committee was established by the Supreme Court to monitor relief and rehabilitation efforts in Manipur.

able assets created using those contributions.

About the Foreign Contribution Regulation Act:

- FCRA was enacted during the Emergency in 1976 amid apprehensions that foreign powers were interfering in India's affairs by pumping money into the country through independent organisations.
- The law sought to regulate foreign donations to individuals and associations so that they functioned in a manner consistent with the values of a sovereign democratic republic.

8. PENSION FUND REGULATORY AND DEVELOPMENT AUTHORITY (PFRDA)

Context:

The Pension Fund Regulatory and Development Authority (PFRDA) has requested the government to increase the guaranteed pension amount under the Atal Pension Yojana (APY) due to concerns that the current amount may not be attractive enough for potential subscribers

About Atal Pension Yojana (APY):

APY is a contributory scheme aimed at establishing a universal social security system for workers in the unorganised sector. Currently, subscribers aged 18 to 40 contribute and receive a fixed pension amount ranging from Rs 1,000 to Rs 5,000 after reaching 60.

About Pension Fund Regulatory and Development Authority (PFRDA):

The Pension Fund Regulatory and Development Authority (PFRDA) is a statutory body that regulates India's pension sector. It was established in 2013 by the Pension Fund Regulatory and Development Authority Act

6. UNIFIED REGISTRATION PORTAL FOR GOBARDHAN

Context:

The Department of Drinking Water and Sanitation (DDWS), Ministry of Jal Shakti, has introduced a Unified Registration Portal for [GOBARDhan](#) to simplify the registration of Compressed Bio-Gas (CBG) and [biogas](#) plants across India.

- So far, over 1,163 biogas plants and 426 CBG plants have been successfully registered on the portal.
- These registered plants are eligible for assistance under the Market Development Assistance (MDA) scheme of the Department of Fertilizers, Ministry of Chemicals & Fertilizers.

The Market Development Assistance (MDA) scheme, launched by the Department of Fertilizers aims to promote the production and adoption of organic fertilizers generated from GOBARDhan plants. It seeks to encourage sustainable/organic agricultural practices, reduce reliance on chemical fertilizers, and boost the use of bio-slurry in agriculture.

The GOBARDhan initiative, a multi-ministerial effort, aims to transform organic waste, including cattle dung, agricultural residues, and biomass, into valuable resources like biogas, CBG, and organic manure. This initiative supports high-value Biogas/CBG production and promotes the use of bio-slurry to improve soil health, carbon content, and water retention.

7. FOREIGN CONTRIBUTION REGULATIONS ACT

Context:

Under the [Foreign Contribution Regulation Act \(FCRA\)](#), NGOs and associations registered to receive foreign contributions must now annually declare details of movable and immov-

The introduction of the e-cabinet system aims to eliminate delays caused by the physical movement of paper docu-

9. E-CABINET SYSTEM

Context:

The Tripura Chief Minister has launched an e-cabinet system in Agartala, making Tripura the fourth Indian state and the second in the Northeast to adopt this digital governance initiative.

- With the e-cabinet system, all future cabinet meetings in the state will be conducted without paper documents, promoting environmental sustainability and reducing the carbon footprint.
- The e-cabinet application will enable the uploading of cabinet memos with date and time stamps, and ministers, the chief secretary, secretaries, and other officials will be able to review and approve them online.

ments and inject dynamism into the government's decision-making process.

10. MGNREGS SOCIAL AUDIT

Context:

The **social audit units** responsible for **detecting corruption and malpractice** in the [Mahatma Gandhi National Rural Employment Guarantee Scheme](#) (MGNREGS) have **shown poor performance** in terms of fund recovery, raising concerns about the scheme's credibility.

- In the ongoing financial year, these units flagged **misappropriation of over ₹27 crore**, but only about **₹1 crore (about 14%)** has been recovered so far
- Several states have reported **"zero cases"** and **"zero recoveries"** over the past three years.
- The situation has raised concerns about the **effectiveness of the MGNREGS audit process** and its ability to combat corruption effectively.

About [social audit](#) units:

The **social audit units**, mandated by the MGNREGS Act, are responsible for **monitoring and identifying malpractice independently** of the implementing authorities. However, their performance has been **hampered by inadequate funds, training, and personnel**

GS-3

1. NORMAN E. BORLAUG AWARD FOR FIELD RESEARCH AND APPLICATION

Context:

Indian scientist Dr. Swati Nayak, working at the [International Rice Research Institute](#) (IRRI), has been awarded the **2023 Norman E. Borlaug Award for Field Research and Application** by the World Food Prize Foundation.

- Dr. Nayak is recognized for her **innovative work in engaging smallholder farmers in demand-driven rice seed systems**, focusing on **climate-resilient and nutritious rice varieties**. This award is given to **exceptional scientists under 40 who contribute to food and nutrition security and hunger eradication**, in memory of Nobel laureate Dr. Norman Borlaug, known as the chief architect of the Green Revolution.

2. JP MORGAN GLOBAL BOND INDEX

Context:

JP Morgan Chase & Co. has announced the **inclusion of Indian government bonds** into its **emerging markets bond index**, effective from June 2024.

- This move is expected to **attract approximately \$25 billion in foreign investment** into India's domestic government securities market.

Significance:

- India will reach a **maximum weight of 10 per cent** in the **GBI-EM Global Diversified Index (GBI-EM GD)** as part of the inclusion.
- Analysts estimate that the inclusion could result in **nearly \$26 billion in passive inflows**, with the **potential for additional active flows of around \$10 billion**, bringing the total inflows to approximately \$40 billion over the next one and a half years.

3. PEROVSKITE

Context:

Scientists have **made a significant breakthrough** in **solar panel technology** using a **nanoscale "ink" coating**.

- This innovation could **potentially accelerate the transition to renewable energy sources**. The researchers found that this **coating can enhance the stability of perovskite solar cells**, making them suitable for mass production.

About [Perovskite](#):

- Perovskite solar cells are **cheaper, lighter, and more efficient than traditional silicon-based cells**.
- However, they face **challenges related to a drop in efficiency and energy output** during the manufacturing process. The researchers **identified an aluminium oxide** that minimizes this efficiency drop during the conditioning of perovskite solar cells.
- Perovskite has been recognized as a **"miracle material"** with the potential to revolutionize various industries, including renewable energy.
- Recent advancements have **enabled the creation of self-healing solar panels** and improved efficiency when combined with silicon in tandem cells.

4. ARTIFICIAL REEF (AR)

Context:

The **Department of Fisheries** is **actively promoting the use of Artificial Reefs (AR)** as a means to **rejuvenate coastal fisheries**.

- Under the **Pradhan Mantri Matsya Sampada Yojana (PMMSY)**, the department has approved **732 artificial reef units for 10 coastal states**.
- These projects are part of the **"Integrated Modern Coastal Fishing Villages" program within the Centrally Sponsored Scheme (CSS)**.
- The implementation of these artificial reefs is being carried out **with technical support from the Fishery Survey of India (FSI) and ICAR-Central Marine Fisheries Research Institute (CMFRI)**.

The [Pradhan Mantri Matsya Sampada Yojana](#) (PMMSY) was launched in May 2020 to bring about a **Blue Revolution** by promoting sustainable and responsible development in the fisheries sector.

Artificial reefs are **human-made structures or objects** that are **intentionally placed on the seabed to mimic the characteristics of [natural reefs](#)**. These structures serve various ecological, economic, and recreational purposes.

5. VIBRIO VULNIFICUS

Context:

Vibrio vulnificus, a **marine bacterium**, could pose a major threat to coastal populations due to ideal conditions created by climate change.

- This bacterium can **cause life-threatening infections and has a high mortality rate, particularly among those with weakened immune systems or comorbidities**.

Issues:

- **Underreported Cases:** Researchers suggest that cases of *Vibrio vulnificus* infections are likely underreported in India.
- **Climate Change Impact:** As climate change leads to more frequent cyclones, heavy rainfall, and flooding, coastal communities may face an increased risk of exposure to *Vibrio vulnificus*.
- **India's sea surface temperatures are conducive to the growth of *Vibrio vulnificus*.**
- **Mortality Rate:** *Vibrio vulnificus* has a **high mortality rate, particularly when it enters the bloodstream**.
- **Preventive Measures:** Researchers are **developing tools to predict the abundance of *Vibrio vulnificus* based on sea surface temperature and phytoplankton levels**

6. PTERYGOTRIGLA INTERMEDICA – NEW FISH SPECIES

Context:

Scientists from the **Zoological Survey of India (ZSI)** have discovered a **new species of deep-sea marine fish in Digha Mohana, West Bengal, named *Pterygotrigla intermedica***, commonly known as **gurnards or sea-robins**.

- This fish belongs to the **Triglidae family** and is characterized by its **vibrant orange color**. It is the **fourth species of the *Pterygotrigla* genus reported in India and adds to the 178 species of the Triglidae family found worldwide**.



7. GALACTIC TIDES

Context:

Galactic tides, **similar to the tides in Earth's oceans but on a much larger scale**, are caused by **gravitational forces within galaxies**, resulting from interactions between celestial objects like **stars and gas clouds**.

- These tidal forces play a significant role in **shaping the evolution of galaxies**. They can alter a **galaxy's structure by creating features like tidal tails and bridges, stimulating star formation, and disrupting smaller star systems**.
- Over vast stretches of time, galactic tides also perturb the orbits of stars, **leading to long-term changes in the structure of galaxies**. Galactic tides even influence how neighbouring galaxies interact with each other.
- Galactic tides also impact **supermassive black holes located at the centres of galaxies**, resulting in events that alter how these cosmic giants interact with nearby stars.



8. NASA'S OSIRIS-REX

Context:

A NASA space capsule carrying the **largest sample ever collected** from an asteroid landed on **Utah's Test and Training Range**.

- The capsule was released from the **[OSIRIS-REx spacecraft](#)**, which had been in space for seven years and collected the **sample from the asteroid Bennu**. Scientists will use this sample to learn more about the origins of the solar system.

The **OSIRIS-REx spacecraft, renamed OSIRIS-APEX (OSIRIS-Apophis Explorer), did not return to Earth's surface**. Instead, it separated from the sample return capsule and will continue its mission to study another near-Earth asteroid named **Apophis** when it comes close to Earth in 2029.



9. VEERANGANA DURGA VATI TIGER RESERVE

Context:

Madhya Pradesh, known as the “tiger state” of India due to its substantial tiger population, has officially designated a new protected area for these magnificent creatures called the ‘Veerangana Durgavati Tiger Reserve.’

- This newly established reserve becomes the seventh tiger reserve in the state.
- Madhya Pradesh has consistently held the title of the “tiger state,” with its tiger population increasing from 526 in 2018 to 785 in the 2022 census.

The Veerangana Durgavati Tiger Reserve incorporates the previously recognized eco-sensitive zone of Nauradehi and Veerangana Durgavati sanctuaries, along with surrounding forest areas, into the buffer zone.

10. THE STATE OF THE RHINO REPORT, 2023

Context:

The greater one-horned rhino population in India and Nepal is growing, as highlighted in the State of the Rhino Report, 2023, by the International Rhino Foundation (IRF).

- While poaching and habitat loss remain significant threats to rhinos globally, climate change is also impacting their survival.

Key Findings:

- The collaboration among India, Bhutan, and Nepal, along with strict government protection and man-

agement, has led to a 20 per cent increase in their population over the past decade. India is estimated to be home to 3,262 rhinos.

- Black rhino populations are increasing despite poaching pressure. However, South Africa is grappling with devastating poaching losses of its white rhinos, particularly in certain reserves.
- One concerning aspect highlighted in the report is that the status and whereabouts of 12 of the approximately 76 remaining Javan rhinos are unknown. Sumatran rhinos are also increasingly difficult to find, raising uncertainty about their population in the wild.

The report underscores the need for continued efforts to protect and conserve rhinos and their habitats, address poaching, and mitigate the effects of climate change to ensure the survival of these iconic species.



11. EXERCISE YUDH ABHYAS-23

Context:

The 19th edition of “EXERCISE YUDH ABHYAS” is scheduled to take place from September 25th to October 8th, 2023.

- This annual exercise is a collaborative effort between the Indian Army and the United States Army.
- The theme of “EXERCISE YUDH ABHYAS-23” centres on the ‘Employment of an Integrated Battle Group in Mountain/Extreme Climatic Conditions,’ following Chapter VII of the United Nations mandate.

The exercise will feature a Command Post Exercise, as well as Expert Academic Discussions on specific topics. The Field Training Exercise will validate Integrated Battle Groups against hostile forces at the Brigade level, Integrated Surveillance Grid at the Brigade/Battalion level, and the use of Heliborne/Airborne elements and Force Multipliers.

It will also assess logistics and casualty management during operations, evacuation, combat medical aid, and other aspects relevant to High Altitude Areas and Extreme Climatic Conditions.

12. INDIAN STANDARDS ON BIO-FUEL

Context:

The Bureau of Indian Standards (BIS) has announced that Indian standards on biofuels will significantly support the objectives of the [Global Biofuel Alliance](#) (GBA).

- BIS has developed nine Indian standards on biofuels, including specifications for anhydrous ethanol, biodiesel, biogas, biodiesel-diesel fuel blends, hydrous ethanol, E85 fuel, E20 fuel, aviation turbine fuel containing synthesized hydrocarbons, and ethanol as a fuel for spark-ignition engine-powered vehicles.
- Additionally, BIS is working on a standard for paraffinic (green) diesel derived from 2G feedstock.

The G20 leaders launched the GBA during the 18th G20 Summit in New Delhi, and it aims to facilitate the adoption of biofuels worldwide. India, the USA, and Brazil are major producers and consumers of biofuels, contributing significantly to the global ethanol market.

13. GREEN HYDROGEN-RUN BUS

Context:

Indian Oil Corporation (IOC) has introduced India's first green [hydrogen-powered bus](#), which emits only water vapour as its by-product.

- Green hydrogen is an environmentally friendly option as it only emits water vapour when burned and has three times the energy density of other fuels. It requires 50 units of renewable electricity and 9 kg of deionized water to produce one kilogram of green hydrogen.

14. MAHARASHTRA'S EPHEMERALS

Context:

In parts of Maharashtra, certain plant species known as "ephemerals" wait for the monsoon season to bloom.

- These ephemerals include both annual and perennial plants. Annual ephemerals form new individuals each year, briefly appearing for a short period, producing seeds, and remaining dormant until the next year. Perennials have underground structures like tubers or bulbs, with the same individual persisting while other parts like stems and flowers are newly formed each year.

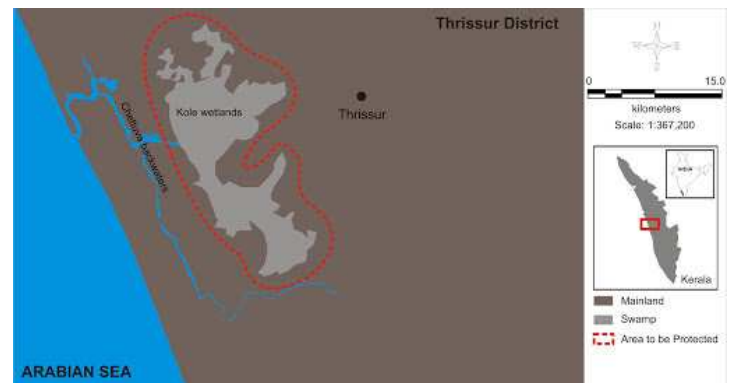


15. KOLE WETLANDS

Context:

The Kole [wetlands](#) in Kerala, an internationally important [Ramsar site](#) known for its high biodiversity, are facing a new threat from an invasive alien plant species called *Cabomba furcata*, also known as Pink Bloom.

- This species, originating from Central and South America, has been introduced to Kerala as an aquarium plant and has now become a menace to the Kole fields, alongside existing threats like water hyacinth and *Salvinia molesta*.
- Cabomba furcata*, characterized by its massive pink flowering. While its vibrant pink appearance may seem picturesque, it poses a significant threat to the biodiversity and agricultural productivity of the region.



16. ASOLA BHATTI SANCTUARY

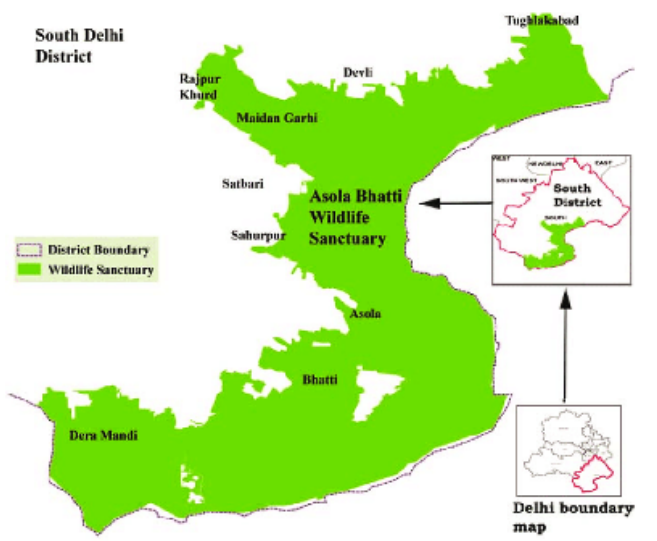
Context:

The Wildlife Institute of India (WII), Dehradun, is set to conduct a study on the biodiversity of the Asola Bhatti Wildlife Sanctuary in Delhi and formulate a management plan for the sanctuary.

- The study aims to assess the potential socio-economic impacts on nearby villages by preserving the ecological integrity of the ecosystem. It will also examine the mined-out pits and their attributes, including associated plant and animal components.

and habitats, with a focus on promoting sustainable eco-tourism.

The Asola Bhatti Wildlife Sanctuary is part of the Sariska-Delhi wildlife corridor, supporting leopard movements from Rajasthan to Delhi.



17. NILGIRI TAHR

Context:

The Tamil Nadu Forest Department is planning to conduct a comprehensive census of the endangered Nilgiri tahr, along with Kerala.

- There are believed to be a little over 3,100 Nilgiri tahrs in the Western Ghats region.
- For the first time, drones may be used in the census as Nilgiri tahrs prefer montane grasslands with steep and rocky terrains at altitudes between 300 and 2,600 meters above sea level.

Project Nilgiri Tahr



Project Nilgiri Tahr of Tamil Nadu Forest (India's first) aims to restore the fragmented habitat especially Shola grasslands where it thrives, reintroduce the Tahr population in its historic habitat and ensure proper rehabilitation facilities are provided



About Nilgiri Tahr

- Only mountain ungulate in Southern India among the 12 species present in India.
- Population:** It's population has been estimated at 3,122 in the wild (WWF India 2015 estimates)
- It is endemic to Western Ghats and locally known as 'Varaiaadu'.
- Threats:** A large part of its population has been wiped out from its historical range of Western Ghats. The existing populations are under severe stress due to habitat loss and hunting
- State animal of Tamil Nadu
- IUCN: Endangered

Ungulates consists of large mammals with hooves.



The shola forest-grassland is the tropical montane forest found in the upper reaches of India's Western Ghats. This mosaic ecosystem is native only to the southern Western Ghats and found in the high altitude mountains of Kerala, Tamil Nadu and Karnataka.

Shola-Grasslands



18. BHARAT DRONE SHAKTI 2023

Context:

The first-ever drone exhibition and display, "Bharat Drone Shakti 2023," was inaugurated by India's Defence Minister, at the Hindan Air Force Station in Ghaziabad, Uttar Pradesh.

- This event, jointly organized by the Indian Air Force (IAF) and the Drone Federation of India (DFI), showcases over 75 drone start-ups from across India.
- The displayed drones have applications in both military and civilian sectors and aim to support the government's initiative to establish India as a major drone hub by 2030.

The inauguration of "Bharat Drone Shakti 2023" was followed by the formal induction of the first C-295 MW transport aircraft into the Indian Air Force (IAF). This medium-lift tactical aircraft is capable of taking off and landing from unprepared landing grounds and will replace the HS-748 Avro aircraft.

19. USING NEWSPAPERS FOR HANDLING FOOD

Context:

The Food Safety and Standards Authority of India (FSSAI) has urged consumers and food vendors to stop using newspapers for packing, serving, and storing food due to health hazards.

Issues with using Newspaper for handling food:

Issue	Description
Ink Contamination	Newspapers contain ink with bio-active materials that can contaminate food and pose health risks. Recycled paper boxes can also have contaminants like mineral oils and chemicals, potentially causing digestive problems and toxicity
Chemical Leaching	Printing inks may contain chemicals, including lead and heavy metals , which can leach into food.
Susceptible to Contamination	Newspapers are exposed to various environmental conditions during distribution, making them susceptible to bacterial or viral contamination .
Potential Foodborne Illness	Contaminants from newspapers can lead to foodborne illnesses when ingested.
Absorbs Excess Oil	Newspapers should not be used to absorb excess oil from fried food as per regulations.

Vulnerable Groups	Vulnerable groups, like the elderly and those with weakened immune systems , are at greater risk of cancer-related health issues from food packed in such materials.
Violation of Regulations	According to the Food Safety and Standards (Packaging) Regulations, 2018 , the use of newspapers or similar materials for storing and wrapping food is strictly prohibited.

About **FSSAI**:

Food Safety and Standards Authority of India (**est. 2008**; **HQ: New Delhi**) is an autonomous statutory body (under the Food Safety and Standards Act, 2006) established under the Ministry of Health & Family Welfare.

20. NATIONAL POLICY ON RE-SEARCH & DEVELOPMENT AND INNOVATION IN THE PHAR-MA-MEDTECH SECTOR

Context:

The Union Minister of Chemicals and Fertilizers and Minister of Health & Family Welfare in India, has launched a significant initiative known as the National Policy on Research and Development and Innovation in the Pharma-MedTech Sector.

- This policy aims to **transform India's pharmaceutical and medical technology industries** from being cost-based to becoming value-based and innovation-driven.

Key Highlights:

- Transformation Goals:** The need to **shift the focus of India's pharmaceutical and MedTech sectors** towards innovation and value creation.
- Ecosystem Building:** The policy seeks to **establish an ecosystem that fosters skills and capacities**, involving academia and the private sector.
- Prioritizing Research and Development:** Importance of research and development to achieve **self-reliance in pharmaceuticals and medical devices**.
- Infrastructure Development:** The scheme aims to **develop world-class research infrastructure** at institutions like **NIPERs (National Institutes of Pharmaceutical Education and Research)** and other research institutes.
- Focus on Priority Areas:** The initiative identifies **specific priority areas** to enhance India's pharmaceutical industry's global position.
- Economic Growth and Employment:** The scheme anticipates that the **launch of commercially viable products** will accelerate the growth of India's pharmaceutical sector.
- Healthcare Solutions:** One of the objectives is to **develop affordable and accessible healthcare solu-**

tions for primary health concerns, thereby **reducing the healthcare burden on the nation**.

21. RODTEP SCHEME

Context:

The Indian government has **announced the extension of export benefits under the Scheme for Remission of Duties and Taxes on Exported Products (RoDTEP)** for an additional year, until **June 2024**.

- The **RoDTEP** scheme **provides exporters with re-funds for taxes, duties, and levies incurred during the manufacturing and distribution of goods**, which are not reimbursed through other mechanisms at the **central, state, or local levels**.
- This move is **expected to assist the exporting community in negotiating international export contracts** under the current global economic conditions.

The **RoDTEP** scheme replaced the **Merchandise Exports from India Scheme (MEIS)**, which concluded the previous year.

22. SOCIAL BONDS

Context:

The **National Bank for Agriculture and Rural Development (NABARD)** has successfully raised **Rs 1,040.50 crore** through a **five-year social bond**.

- The **social bonds** issued by **NABARD** have received '**AAA**' ratings from **CRISIL** and **ICRA**, and they will be listed on the **BSE (Bombay Stock Exchange)**.
- NABARD** recently introduced a **Sustainability Bond Framework**, aimed at **financing and refinancing green and social projects**.

Social bonds are a **type of financial instrument or investment vehicle** issued by governments, companies, or organizations to **raise capital for projects or initiatives with a specific social or environmental purpose**. These bonds are typically designed to **fund projects that have a positive impact on society or address social and environmental challenges**.

23. BREAKTHROUGH AGENDA REPORT 2023

Context:

The **Breakthrough Agenda Report 2023** is an annual collaboration between the **International Energy Agency (IEA)**, the **International Renewable Energy Agency (IRENA)**, and the **United Nations Climate Change High-Level Champions**.

- Its focus is on **strengthening international cooperation to accelerate the reduction of global greenhouse gas emissions**.

Key Findings:

- The report **evaluates progress made since 2022** in priority areas for global collaboration.

- It offers recommendations **for countries to work together** in these **sectors to reduce emissions over the next decade** and mitigate the worst effects of climate change.
- The report acknowledges the **accelerating transition to clean energy and sustainable solutions** in various sectors, particularly in technologies like electric vehicles and solar PV.
- It notes that **electric passenger cars are expected to represent 18% of total car sales in 2023**, and clean energy technology investments are **surpassing spending on fossil fuels**.
- However, **some high-emission and challenging-to-decarbonize sectors**, including steel, hydrogen, and agriculture, are not transitioning rapidly enough, despite progress in certain aspects.

The report **highlights modest progress in strengthening international collaboration over the past year**, with expanded financial assistance to developing countries and increased joint research and development initiatives.

24. PET46

Context:

A recent study involving scientists from Kiel University (Germany) has discovered a **deep-sea enzyme, PET46**, capable of continuously breaking down [PET plastic](#), commonly found in plastic bottles.

About PET46:

PET46 has unique properties, such as the ability to **degrade long-chain and short-chain PET molecules**, making it valuable for biotechnology applications. This research is part of the **PLASTISEA project** and sheds light on the potential for plastic waste degradation in the sea and on land.

What is [PET plastic](#)?

PET plastic, or **polyethylene terephthalate**, is a common type of plastic used to make bottles, containers, and synthetic fibres. It is known for its transparency, lightweight nature, and recyclability. PET is widely used for packaging beverages, food, and personal care products.

house gases into sustainable fuels and valuable products using solar energy.

25. BALSAMS

Context:

In **Munnar**, a popular tourist destination in India, **balsams (genus Impatiens)** are currently in full bloom, providing a **delightful visual spectacle**.

- Balsams are sometimes referred to as **'touch-me-not'** due to their tendency to burst and distribute mature seeds upon touch.
- Balsams are considered **significant indicator species for climate change**, reflecting alterations in plant populations when climate change occurs.

Idukki district, where Munnar is located, is renowned for its diverse range of balsams, earning it the nickname of a **"balsam paradise"** among scientists. The **high-altitude areas surrounding Anamudi**, the highest mountain in the Western Ghats, are particularly known for their rich diversity of wild balsams.



26. QUBIT CIRCUIT

Context:

Researchers at **MIT** have made **significant progress** in developing a **novel superconducting qubit architecture** that can perform operations between **qubits with much greater accuracy than previously achieved**.

- They used a **relatively new type of superconducting qubit called fluxonium**, which has a **longer lifespan than traditional superconducting qubits**.
- This allowed them to **achieve single-qubit gates with 99.99% accuracy and two-qubit gates with 99.9% accuracy**, well above the threshold needed for certain error-correcting codes.

Fluxonium is a type of qubit (quantum bit) that is based on operations at important junctions in a superconducting circuit

Quantum computing is a **multidisciplinary field that utilizes quantum mechanics to solve complex problems faster than classical computers**. A qubit is the basic unit of information in quantum computing



Previously, Researchers from the **University of Cambridge** had created a system to turn **PET plastic waste and green-**

27. HIV ACT

Context:

The **Supreme Court of India** has directed the **central and state governments** to ensure the **effective implementation of the Human Immunodeficiency Virus and Acquired Immune Deficiency Syndrome (Prevention and Control) Act, 2017**, also known as the **HIV Act**.

- The court also instructed all courts, tribunals, and quasi-judicial bodies to prioritize cases related to HIV-infected individuals for early disposal as per the mandate of Section 34(2) of the HIV Act and maintain the anonymity of HIV-infected individuals.
- It emphasized the **protection of the property of children, their parents, or guardians affected by HIV/AIDS** and the care and support of children infected with HIV or AIDS.

HIV (human immunodeficiency virus) is a virus that **attacks the body's immune system**. It can lead to **AIDS (acquired immunodeficiency syndrome)** if it's not treated. There is currently **no effective cure, but with proper medical care, HIV can be controlled**

HIV is spread by contact with certain bodily fluids of a person with HIV

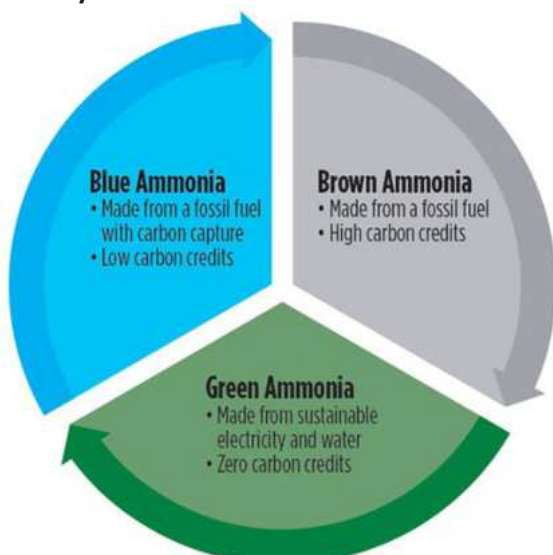
HIV attacks the **white blood cells called CD4 cells**. This makes a **person more vulnerable to other infections and diseases**. As the immune system weakens, **the person is at risk of getting life-threatening infections and cancers**

28. GREEN AMMONIA

Context:

Recently, the **V.O. Chidambaranar Port Authority** in Tamil Nadu, India, **successfully received and handled Green Ammonia Containers** from Egypt.

- Green ammonia is ammonia that is **produced using renewable energy and hydrogen from water electrolysis**. This makes green ammonia production **virtually carbon dioxide-free**.



29. LITHIUM-ION BATTERY FIRES

Context:

Lithium-ion battery fires, although relatively rare, can be **intense and long-lasting**.

- They are mainly caused by a phenomenon called **"thermal runaway,"** triggered by factors like **internal failures (such as short circuits) or external damage**. This can lead to a battery catching fire or even **exploding**.
- Using water to extinguish lithium-ion battery fires is **counterproductive** as it can fuel the fire by reacting with lithium, producing **flammable hydrogen gas**. Water also **conducts electricity**, posing additional risks of **electrical shocks or short-circuits**.
- To combat these fires, **experts recommend using specialized fire extinguishers**, such as **Class D fire extinguishers** designed for lithium-metal fires or **dry chemical fire extinguishers** suitable for electrical fires.

Aftermath of these fires includes the **release of toxic gases like carbon monoxide, hydrogen fluoride, and hydrogen chloride**, which can be hazardous when inhaled in significant quantities, especially in confined spaces.

30. CONOCARPUS TREES

Context:

The **state government of Gujarat in India** has imposed a ban on the plantation of **Conocarpus trees** in both forest and non-forest areas due to **their adverse impacts on the environment and human health**.

- The decision to ban Conocarpus comes after **research reports highlighted its adverse effects, including spreading pollen that can lead to diseases like cold, cough, asthma, and allergies**.
- Conocarpus trees have **deep roots that can damage telecommunication lines, drainage systems, and freshwater systems**

Conocarpus erectus, commonly called **buttonwood or button mangrove**, is a mangrove shrub that **grows on shorelines in tropical and subtropical regions around the world**



31. ROUGH DIAMONDS

Context:

The Gem and Jewellery Export Promotion Council and other leading associations in the diamond industry have instructed their members to suspend the import of rough diamonds for two months.

- This move comes in response to a significant increase in the inventory of polished diamonds due to a sharp decline in exports.
- The aim is to balance the demand and supply in the industry, protect asset values, and boost consumer confidence.

The diamond market has been facing challenges, with demand for polished diamonds and jewellery slowing down in major consumer economies like the US and China, resulting in a 27% decrease in gem and jewellery exports in the first five months of this fiscal year

What is the Kimberley Process?

The [Kimberley Process](#) is an international certification scheme that regulates trade in rough diamonds. It aims to prevent the flow of conflict diamonds while helping to protect legitimate trade in rough diamonds.

Rough diamonds are uncut, unpolished, and unprocessed diamonds in their natural form as they are mined from the earth or extracted from other sources like alluvial deposits.

32. GLOBAL INNOVATION INDEX 2023

Context:

India has retained its 40th position in the [Global Innovation Index \(GII\) 2023](#).

- This ranking is attributed to India's vibrant start-up ecosystem, knowledge capital, and contributions from public and private research organizations.
- India also maintained its top position in the lower-middle-income group and the Central and South Asian region.

About Global Innovation Index:

- The GI, published by the [World Intellectual Property Organisation \(WIPO\)](#), evaluates 132 economies on their innovation capabilities.
- Switzerland secured the top position in the index, followed by Sweden, the United States, the United Kingdom, and Singapore.
- China ranked 12th among middle and lower-middle-income economies, with no others in the top 30.

33. COOKIES

Context:

Cookies are a vital component of the digital world, enhancing online experiences by remembering login information, preferences, and interactions on websites.

- Cookies come in various types, including session cookies (temporary), persistent cookies (long-lasting), secure cookies (encrypted), and third-party cookies (from domains other than the visited site).

Benefits:

They are like keys to a secure club, granting seamless access to websites. Cookies enable personalization, as seen on platforms like Amazon, which use them to provide tailored product recommendations and shopping cart persistence.

Challenges:

- Privacy concerns arise as they can track online behaviour, potentially encroaching on digital privacy.
- Inadequate security can lead to data breaches. Privacy regulations like GDPR and the California Consumer Privacy Act require websites to seek user consent for certain cookie types, leading to pop-ups and prompts.

India's [Digital Personal Data Protection Act 2023](#) mandates explicit user consent for data collection via cookies.

34. INTERNATIONAL SHIPPING EMISSIONS

Context:

Greenhouse gas (GHG) emissions from international shipping have increased by 20% over the last decade, according to the [United Nations Conference on Trade and Development \(UNCTAD\)](#).

- The shipping industry accounts for nearly three per cent of global GHG emissions and more than 80% of global trade volume.
- The sector faces challenges in transitioning to alternative fuels, as 98.8% of the global fleet still uses conventional fuels.
- Only 1.2% of vessels use alternative fuels, such as liquefied natural gas (LNG), battery/hybrid, liquefied petroleum gas (LPG), and methanol.

To address emissions, the [International Maritime Organization](#) has set a target of achieving net-zero GHG emissions by around 2050 and aims to ensure that zero or near-zero GHG fuels represent at least five per cent of energy used by international shipping by 2030.

35. NEW ASIAN PANGOLIN SPECIES

Context:

Researchers analysing confiscated pangolin scales in Hong Kong and China's Yunnan province have identified a new and distinct [pangolin](#) species named *Manis mystria* through DNA analysis.

- This discovery marks the ninth known species of pangolin.
- Pangolins have been poached for bushmeat, but in the last decade, their skins, scales, and whole bod-

ies have been in high demand in countries like **Vietnam, China, and the US**. This has led to a decline in their populations.

About Pangolin

- Pangolins are among the **most trafficked wild mammals globally**.
- India is home to two species:
- Indian Pangolin (EN)**, found across the subcontinent
- Chinese Pangolin (CR)**, is found across a larger area in south Asia.
-
- Both species are included under **India's Schedule I** of the **Wildlife Protection Act** (Jail term for those hunting animals listed here)
- Appendix I of CITES** (meaning they are most endangered)
- Ecological Importance:** They play a vital role in ecosystem management, mostly in aerating and adding moisture to the soil as well as the succession of plant communities through burrowing.



36. FISH MINT

Context:

Fish mint is a **unique herb known for its fish-like taste and smell**.

Its medicinal properties are well-documented in traditional **Chinese, Japanese, Ayurvedic, and Siddha medicine**. It grows in **Southeast Asia**, thriving in moist soils and resisting flooding.

In India, it goes by various names and is used in **salads and vegetables**. Fish mint has numerous health benefits, including **treating asthma, mitigating fever's impact, preventing infectious oral diseases**, and potentially aiding in managing COVID-19 symptoms. It is also linked to **weight reduction, improved insulin resistance**, and cosmetic applications for irritated skin.



SPORTS CORNER

1. ESPORTS IN ASIAN GAMES (HANGZHOU)

Esports officially debuted as an official event at the **Asian Games 2023 (in Hangzhou, China)**, featuring seven top titles, including **League of Legends**, and involving teams from over 30 countries.

The competition included both **PC and mobile games**, covering multiplayer online battle arena (**MOBA**) and single-player genres. Gold medals were awarded for each game.

What is Esports?

Esports, short for electronic sports, refers to **organized competitive video gaming**. It involves individuals or teams competing in various video games at a professional level, often in tournaments with significant prizes.

More about Esports:

- Esports was previously featured as a demonstration sport at the **Jakarta Asian Games (2018)** and proved highly popular.
- Esports inclusion in the Olympics remains uncertain, with concerns about violent or discriminatory content in some games.
- Notably, winning a gold medal in esports at the Asian Games could exempt South Korean players from compulsory military service.

What are the types of online gaming?

- E-sports** (well-organized electronic sports which include professional players),
- Fantasy sports**
- Casual games:** these can be either skill-based (mental skill) or chance-based (based on a random activity like a roll of a dice) online games.

MAPPING

1. ARGENTINA

India is on the verge of finalizing agreements for the **acquisition of five lithium blocks** in [Argentina](#) through the State-owned joint venture, **KABIL**.

Argentina, as part of the “**Lithium Triangle**” along with **Chile and Bolivia**, is a significant producer of lithium, holding the **world’s third-largest lithium reserve**.

[KABIL](#) is a joint venture, involving **NALCO, MECL, and HCL**, and is focused on identifying and acquiring strategic minerals overseas for India’s use. It is also exploring opportunities for lithium partnerships and acquisitions in other **Latin American nations** like Chile and Brazil, as well as in Australia for lithium and cobalt exploration.

[Argentina](#) is a country in the **southern half of South America**. Argentina is the second-largest country in South America after Brazil. **The Andes Mountains**, which run through both **Argentina and Chile**, are known for **hosting lithium-rich brine deposits**. The region’s unique geological conditions make it conducive to the formation and concentration of lithium resources.



2. KAOBAL GALI-MUSHKOH VALLEY

Context:

The **Kaobal Gali-Mushkoh Valley**, which was once a battlefield during the [Kargil War](#), has now opened up for tourists.

This transformation is attributed to **the 43-month-long ceasefire agreement between India and Pakistan**, the enthusiasm of the local population, and efforts by both the

administration and businesses to capitalize on the tourism potential.



About Kaobal Gali-Mushkoh Valley:

It is located in **Kargil’s Drass Sector** and was a battlefield during the **1999 Kargil war** between India and Pakistan. The region includes the **Gurez Valley in north Kashmir**, which was previously inaccessible to civilians due to shelling from Pakistan but now connects with the Mushkoh Valley in Kargil’s Drass Sector. **Kaobal Gali**, the highest pass at a height of 4,167 meters in Gurez, connects Gurez to Mushkoh Valley.

The Gurez Valley is close to the [Line of Control \(LoC\)](#) and is also home to **ibex, musk deer and marmots, Himalayan brown bear and snow leopard**. The **Kishanganga River** flows through the valley.

3. HAIFA (ISREAL)

The [Battle of Haifa \(1918\)](#), fought during [WWI](#) as part of the **Sinai and Palestine campaign**, was historically overlooked until research by Brig. M S Jodha shed light on the contributions of Indian soldiers.

The Battle of Haifa had significant long-term effects, leading to the partition of **the Ottoman Empire** and the creation of several modern states. Indian soldiers from princely states like **Jodhpur (Jodhpur Lancers)** played a **crucial role**, providing resources and troops to the British Indian Army.

[Haifa Day](#) commemorations were initiated in 2010, acknowledging the **Indian soldiers’ contributions**. Teen Murti Chowk in India was renamed **Teen Murti Haifa Chowk** in honour of the Battle of Haifa’s centenary.

Haifa is a **northern Israeli port city** built in tiers extending from the **Mediterranean** up the north slope of **Mount Carmel**. The city’s most iconic sites are the immaculately landscaped terraces of **the Bahá’í Gardens** and, at their heart, the gold-domed Shrine of the Báb.



4. KAIMUR WILDLIFE SANCTUARY

Bihar is getting its **second tiger reserve in Kaimur** (Kaimur [Wildlife Sanctuary](#)), expected to be established by the end of 2023 or early 2024. The need for a second reserve arose as the **Valmiki Tiger Reserve** (Bihar's 1st tiger reserve) reached its capacity to manage tigers.

Kaimur Wildlife Sanctuary, Bihar's largest, covers Kaimur and Rohtas Districts. Established in 1979, it features diverse forest types, rare flora and fauna, and historical sites like **Rohtasgarh Fort and Shergarh Fort**. The government plans to convert it into a Tiger Reserve.



5. SUNDARBANS

India and Bangladesh have signed an agreement to address **climate-related loss and damage** in the Sundarbans, a UNE-SCO World Heritage Site shared between the two countries.

This consensus calls for a **joint stakeholder initiative** to raise awareness of the [Sundarbans'](#) climate challenges on the global stage.

Despite contributing minimally to carbon emissions, the Sundarbans face significant climate impacts, including cyclones, sea-level rise, and forced migration.

[Sundarbans](#) is a **mangrove area** in the delta formed by the confluence of the Ganges, Brahmaputra and Meghna Rivers in the Bay of Bengal.

Features:

- Sundarban in India is its **largest mangrove ecosystem**.
- **Sundarban Reserve Forest of Bangladesh** is the largest mangrove forest in the world.
- It contains **Sundarbans Tiger Reserve, Sundarban Wetland, Sundarbans National Park** and Biosphere Reserve.
- It is the **only mangrove forest** in the world inhabited by **tigers**



6. BOJJANNAKONDA

Context:

Bojjannakonda, a **centuries-old Buddhist heritage site** in (at Sankaram, near Visakhapatnam) Andhra Pradesh, is set to become a major tourist attraction thanks to investments from both the Central and State governments.

About Bojjannakonda:

Bojjannakonda and Lingalametta are ancient [Buddhist](#) monasteries from the **3rd century BC**. The main stupa at Bojjannakonda is a **rock-carved structure** covered with bricks and adorned with Buddha sculptures. Lingalametta boasts rows

of rock-cut monolithic stupas.

These sites show elements of all the three Buddhist phases:

- **Theravada** (Lord Buddha was considered a teacher)
- **Mahayana** (Buddhism was more devotional)
- **Vajrayana** (Buddhist tradition was more practised as Tantra and in esoteric form)

The site is famous for many votive stupas, rock-cut caves, brick-built edifices, early historic pottery, and Satavahana coins that date back to the 1st century AD. Visakhapatnam is renowned for other Buddhist sites like **Thotlakonda**, **Appikonda**, and **Bavikonda**

Holy Buddhist Relic Sites in Andhra Pradesh

The buddhist sites which have yielded relic caskets during excavations in the state of Andhra Pradesh untill December 2012 C.E.

