WAYANAD - FURY OF NATURE

Sivarajavel IAS Academy

The CATALYST is a monthly magazine for current affairs which tries to give aspirants an in-depth comprehension of certain topics which appeared in different sources over the month. The Magazine has been designed in such a way that the reading experience is enriching and insightful for the readers.

The contents have been grouped into a thematic structure to help aspirants focus on the overall GS syllabus.

Inside The Catalyst Magazine

I. Within the Sub themes first few topics will be Prelims oriented followed by indepth coverage of Mains Topics.

II. Book Summary Relevant for UPSC Exam.

III. Fact Sheet and Quotes have also been provided.

From the Editor's Desk

Dear Readers,

Welcome to the January Issue of our magazine, where we've covered a range of topics like the Bilkis Bano case, Iran-Pakistan conflict, Polar Vortex, HPV vaccine, etc. We've even thrown in the second part of the review of "The Cases That India Forgot" by Chintan Chandrachud.

As February approaches, so does the Budget. But fear not, Civil Service Exam aspirants! 2024 is an election year, which means we only have an Interim Budget to decipher, and no Economic Survey to lose sleep over. In our next issue of The Catalyst, we'll break down the budget for you, so you can spend less time worrying and more time preparing for the UPSC Prelims.

Speaking of the UPSC exam, the notification is out and there are over 1000 vacancies! As the preliminary examination looms, we encourage you to stay focused, maintain a balanced lifestyle, and remember that all-nighters and energy drinks are not your friends.

Your feedback and support continue to inspire us. We're committed to making each issue better than the last, so don't hesitate to send us your suggestions to **sivarajaveliasacademy@gmail.com.** After all, we're all in this journey together!

Sincerely,
P. Mohan

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What's Inside?

WAQF AMENDMENT BILL 2024

Context:

The government has introduced the Waqf Act Amendment Bill 2024, in order to improve administration and management of the Waqf properties.

Background:

The Waqf Board Amendment Bill 2024 proposes changes to the Waqf Act of 1995.

The Waqf Board Act, initially enacted in 1995, is a legal framework governing the administration of Waqf properties in India.

Waqf refers to the endowment of property for religious or charitable purposes, and the act outlines the structure, functions, and powers of Waqf boards responsible for managing these properties.

The Central Waqf Council is a statutory body that advises and oversees the functioning of state-level Waqf Boards in India, established under the Waqf Act.

Waqf board's income is exempt from Income Tax but revenue generated from leasing of properties can be taxed under the service tax and GST laws.

Features of the Proposed Bill:

Waqf Board will mandatorily have two Non-Muslim members.

District magistrates may be involved in overseeing waqf properties to ensure proper management. The survey is to be carried out by the district collector, not by Waqf.

Properties are to be registered through a Centralized Portal for better scrutiny. Properties already claimed by boards will undergo new verification processes to resolve disputes and prevent misuse.

Waqf will lose the right to decide whether any property is a Waqf Asset or not.

What is a Waqf Board?

A Waqf board is a legal entity capable of acquiring, holding, and transferring property.

It can sue and be sued in court.

Each state has a Waqf Board led by a chairperson, including nominees from the state government, Muslim legislators, parliamentarians, members of the state Bar Council, Islamic scholars, and mutawalis (managers) of Waqfs with an annual income of Rs 1 lakh and above.

The Waqf Board administers Waqf properties, recovers lost properties, and sanctions the transfer of immovable Waqf properties through sale, gift, mortgage, exchange, or lease, with at least two-thirds of the board membersvotingin favour of the transaction.

The boardappoints custodians to ensure the Waqf and its revenue are used for their designated purposes.

The Central Waqf Council (CWC), established in 1964, oversees and advises state-level Waqf Boards across India.

BREACH OF PRIVILEGE AND COMMITTEE OF PRIVILEGES

Context:

The HC referred the breach of privilege proceedings initiated against the DMK leaders back to the present Privilege Committee, secretary and speaker of the Tamil Nadu Legislative Assembly directing them to take final decision "as expeditiously as possible."

What are the Parliamentary Privileges?

Parliamentary privileges are special rights, immunities and exemptions enjoyed by the members of the Parliament and their committees.

These privileges are defined in Article 105 of the Indian Constitution.

Article 194 guarantees same privileges to the Members of Legislative Assemblies of states.

Under these privileges, the members of Parliament are exempted from any civil liability (but not criminal liability) for any statement made or act done in the course of their duties.

Parliament has not made any special law to exhaustively codify all the privileges. They are rather based on five sources:

Constitutional provisions

Various laws made by Parliament

Rules of both the Houses

Parliamentary conventions

Judicial interpretations

Privileges of Individual Member:

Freedom of Speech in Parliament (Article 105(1))

Immunity to a Member from any proceedings in any court in respect of anything said or any vote given by him in Parliament or any Committee thereof [Article 105(2)].

Immunity to a person from proceedings in any court in respect of the publication by or under the authority of either House of Parliament of any report, paper, votes or proceedings (Article 105(2)).

Prohibition on the Courts to inquire into the validity of any proceedings in Parliament on the ground of any alleged irregularity of procedure. [Article 122(1)].

Freedom from arrest of Members in civil cases during the continuance of the meeting of the House or of a Committee thereof and forty days before its commencement and forty days after its conclusion (Section 135A of the Code of Civil Procedure, 1908).

Collective Privilege of House:

Right of the House to receive immediate intimation of the arrest, detention, conviction, imprisonment and release of a Member.

Immunity from arrest and service of legal process within the precincts of the House without obtaining the permission of the Chairman/ Speaker.

Protection of publication of the proceedings of a secret sitting of the House.

The evidence tendered before a Parliamentary Committee and its report and proceedings cannot be disclosed or published by anyone until these have been laid on the Table of the House.

Members or officers of the House cannot give evidence or produce in courts of law, documents relating to the proceedings of the House without the permission of the House.

STATES POWER TO TAX MINES AND MINERALS

Context:

A nine-judge Bench of the Supreme Court on Wednesday reserved orders for a query raised by the Centre on whether its July 25 judgment upholding the power of State legislatures to tax mines and mineral rights would be applied retrospectively.

What is Supreme Court Judgment

The judgment addressed conflicts between state and central authorities regarding the extent of state powers to tax mining operations

The Supreme Court upheld the authority of state legislatures to impose taxes on mining operations

Asserting that states can levy taxes on mineral rights and mining activities beyond just royalty payments

Potential Impact

Significant unexpected tax liabilities burden industries

Companies may face bankruptcy due to high retrospective tax demands.

Risk of disputes and refund demands from entities that already paid under previous rules.

Increased operational costs and financial instability in mining-dependent sectors.

What is the Difference between Royalty and Tax?

Earlier in 2021, the Supreme Court of India had delineated the distinction between ‹royalty› and ‹tax.›

Royalty: It originates from an agreement between parties. It is a compensation paid for the rights and privileges enjoyed by the grantee.

The royalty payment has a direct relationship with the benefit or privilege conferred upon the grantee.

It is specific to the agreement and is often linked to the exploitation of resources or usage of a privilege granted by the grantor.

Precedents: The Court referenced several cases, including Hingir-Rampur Coal Co. Ltd. vs. State of Orissa (1961), State of West Bengal vs. Kesoram Industries Ltd. (2004), and others, to establish that royalties are contractual obligations with direct benefits.

Tax: It is imposed under a statutory power without reference to any special benefit conferred on the payer. It is enforced by law and does not require the taxpayer›s consent.

Taxes are imposed for public purposes without any specific benefit to the payer. They are part of the common burden borne by all citizens.

Unlike royalties, taxes do not involve a quid pro quo arrangement. The payment is mandatory and not linked to any specific privilege or benefit.

Precedents: The Court referred to several cases, including the State of Himachal Pradesh vs. Gujarat Ambuja Cement Ltd. (2005) and Jindal Stainless Ltd. vs. the State of Haryana (2017), to highlight the characteristics of taxes.

What is the Mines and Minerals (Development and Regulation) Act, 1957?

It is a pivotal legislation in India governing the mining sector. This Act has undergone multiple amendments to address emerging needs and challenges in the mineral sector, ensuring its alignment with national economic and security interests.

The primary objectives were to develop the mining industry, ensure mineral conservation, and bring transparency and efficiency to mineral exploitation.

2015 Amendment: This comprehensive amendment introduced several key reforms.

Auction Method: Mandated auctioning of mineral concessions to enhance transparency in allocation.

District Mineral Foundation (DMF): Established DMF to benefit areas and people affected by mining.

National Mineral Exploration Trust (NMET): Created NMET to boost mineral exploration activities.

Penalties for Illegal Mining: Implemented stringent penalties to curb illegal mining activities.

2016 and 2020 Amendments: Addressed minor issues in the sector to ensure its smooth functioning.

2021 Amendment:

Removed the distinction between Captive and Merchant Mines.

Captive mines are operated by companies to

produce minerals exclusively for their own use. The minerals extracted from captive mines may sell up to 50% of their annual mineral production in the open market after meeting the entire needs of the end-use plant for which the mineral block was originally allocated by the government.

Merchant Mines are operated to produce minerals for sale in the open market. The extracted minerals are sold to various buyers, including industries that do not own their own mines.

Auction-Only Concessions: Ensured that all private-sector mineral concessions were granted through auctions.

2023 Amendment:

The Mines and Minerals (Development and Regulation) Amendment Act, 2023 aims to strengthen the exploration and extraction of critical minerals essential for India's economic development and national security.

Key amendments include removing 6 minerals from the list of 12 atomic minerals limited to exploration by State agencies, empowering the government to exclusively auction mineral concessions for critical minerals.

Introduced exploration licences to attract foreign direct investment and engage junior mining companies in exploring deep-seated and critical minerals.

The focus is on reducing dependence on imports and encouraging private sector involvement to expedite exploration and mining of these critical minerals.

Recognised the importance of minerals like lithium, graphite, cobalt, titanium, and rare earth elements for future technologies and India's commitment to energy transition and net-zero emissions by 2070.

JIYO PARSI SCHEME

Context:

The Minister for Minority Affairs recently launched the Jiyo Parsi Scheme portal.

About Jiyo Parsi Scheme:

It is a unique Central Sector Scheme implemented by the Ministry of Minority Affairsfor arresting the population decline of the Parsi Community in India.

The scheme was launched in 2013-14.

The objective of the scheme is to reverse thedeclining trend of the Parsi population by adopting scientific protocols and structured interventions to stabilize their population in India.

The scheme has three components: Medical Assistance, Advocacy, and Health of Community.

Under the Medical Component of the scheme, financial assistance is provided to Parsi Couples for medical treatment under standard medical protocol.

Under the Health of Community Component, financial assistance is provided to Parsi Couples for child care and assistance of elderly people.

Under the Advocacy Component, advocacy/outreach programmes are conducted to generate awareness among the Parsi population

BHAVISHYA PLATFORM

CONTEXT:

To overcome the problems of delay & clerical errors in processing the pension cases, as well as financial loss and harassment to the pensioners, the DOPPW introduced, a unique innovative centralized pension processing software called 'Bhavishya' for all central government Ministries/ Departments.

Bhavishya has been ranked 3rd best in NeSDA (National e-Governance Service Delivery Assessment), 2021.

FEATURES of Bhavishya:

Auto Registration of Retirees: the 'Bhavishya' software was integrated with payroll package and would auto fill of basic data of the retiring employees and provide the necessary MIS to the various departments as well as to the DOPPW the number of employees due to retire in the next 15 months.

Strict timelines: The software has laid down strict timelines for various stages of pension processing across all stakeholders involved. The process starts online 15 months prior to retirement and the pensioner has to fill up a single form once.

Transparency and Accountability: There is complete transparency and accountability in processing of a pension case and due to this system, it becomes very easy to identify the delay points if any, and fix responsibility.

Automatic Calculation of all the Retirement Benefits: The automatic pension calculation cutting across all Ministries/Departments is accurate since it removes manual intervention and reduce the grievances.

Real time updates via email/SMS alerts: The system is capable of giving real time updates via email/SMS alerts for every action due and performed relating to pension processing of central civil retirees up to the stage of first credit of pension in their respective bank's accounts.

e-PPO: The 'Bhavishya' has also been integrated with the PFMS module of CGA and due to this it has now become possible to issue electronic PPOs (e-PPO). The e-PPO is transmitted by the concerned Ministry/Department's PAO to CPAO from where it goes to the Bank.

End to End digitization: e-PPO makes the entire pension application, procession and payments process paperlessby transferring and accepting data in encrypted form.

Digilocker: Bhavishya automatically push the ePPO in the Digilocker account of the retiree to access it anywhere/anytime without logging into Bhavishya.

Integration with Banks: Bhavishya has been integrated with pension portals of various banks, to provide post-retirement services like Form-16, Pension Slip, status of Life Certificate, due-drawn statement of arrears etc.

OUTCOME: As a result of implementation of Bhavishya, 83% Superannuation PPOs are issued either before retirement or within 30 days.
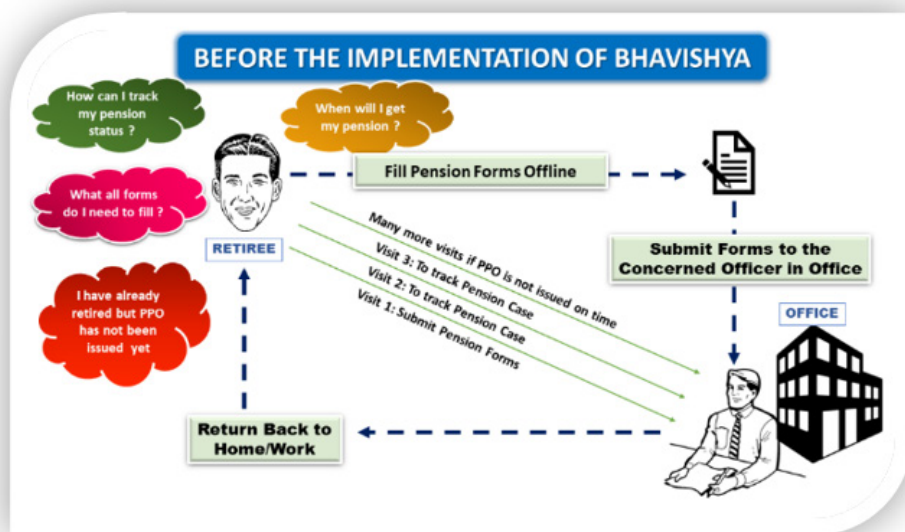
CENTERS FOR PROMOTING CLASSICAL LANGUAGES NEED AUTONOMY

Context:

Recently, special centers for promoting classical Telugu, Kannada, Malayalam, and Odia languages have demanded autonomy in their functioning.

More on the News

These centers, currently under the Central Institute of Indian Languages (CIIL), Mysuru, seek independence to better fulfill their mandates.

The Centre for Tamil is autonomous.

Classical Languages Status in India

India has six classical Languages as of now- Tamil, Sanskrit, Kannada, Telugu, Malayalam and Odia.

In October 2004, the government issued a notification for the first time classifying languages as "classical languages".

Tamil was declared a classical language in 2004, Sanskrit in 2005, Kannada in 2008, Telugu in 2008, Malayalam in 2013, and Odia in 2014.

All the Classical Languages are listed in the 8th Schedule of the Constitution.

Criteria for Classical Language status:

High antiquity of early texts/recorded history spanning over 1000 years.

A body of ancient literature considered valuable heritage by generations.

Original literary tradition, not borrowed from another speech community.

language and literature should be distinct from its modern format with possible discontinuity between classical and later versions or offshoots.

Demand for Autonomy

Financial Constraints:

Centers currently require financial sanction from CIIL for any event or activity, often resulting in reimbursement delays. This hinders their ability to organize programs effectively and maintain regular operations.

Staffing Issues:

Many positions for research scholars and administrative staff remain vacant due to irregular funding. For example, the Classical Telugu center in Nellore has only 12 out of 36 approved staff positions filled.

Operational Challenges:

Project Directors lack financial drawing power, forcing them to seek approval from CIIL's Director for every expenditure. This bureaucratic process significantly impedes the efficient functioning of these centers.

Comparison with Other Classical Languages:

Unlike these four languages, the Centre for Tamil operates autonomously, and serves as a successful model. Sanskrit receives direct funding through dedicated universities from the Union Education Ministry.

Benefits of Classical Language Status

International Recognition:

Classical language status brings two major annual international awards for scholars of eminence in the designated languages, enhancing their global prestige.

Dedicated Research Centers:

The government establishes Centres of Excellence for Studies in each classical language, promoting in-depth research and preservation efforts.

Academic Integration:

The University Grants Commission is requested to create a certain number of Chairs for classical languages in Central Universities, fostering academic expertise.

Financial Support:

Significant funding is allocated for the promotion of classical languages. For instance, ₹643.84 crore was spent on Sanskrit promotion over three years.

Promotion of Classical Languages:

The Central Institute of Indian Languages (CIIL) promotes Kannada, Telugu, Malayalam, and Odia, which are four of India's classical languages.

It established by the Government of India on July 17, 1969, in Mysuru, promotes Indian languages. Operating under the Ministry of Education, it has become a leading institute for language development over the past five decades.

The Government of India supports Sanskrit through three Central Universities, which receive funds for teaching and research. However, there are no separate funds for classical Sanskrit projects.

The Central Institute of Classical Tamil (CICT) is responsible for the development and promotion of Tamil.

STATES CAN SUB-CLASSIFY SCS FOR QUOTAS: TOP COURT

Context

In a significant ruling, the Supreme Court of India has *upheld the right of states to sub-classify SCs and ST*s for the purpose of providing reservation benefits. It recognises that these communities are not monolithic; rather, they exhibit varying degrees of social backwardness.

Data and Fact Related To SCs and STs

*Article 34*1 of the Constitution empowers the President to designate certain '*castes, races, or tribes'* as SCs based on historical injustice related to untouchability.

According to *Census 2011,* Schedule Castes (SCs) approximately *16.6%*, and Schedule Tribes (STs) approximately *8.6%* of India's population.

SC groups collectively receive 15% reservation in education and public employment. 1. Over time, some SC groups have been underrepresented compared to others.

States have attempted to extend additional protection to these marginalised groups, but such efforts faced judicial scrutiny. *Related Constitutional Provisions*

1. Article 14: Guarantees equality before law.

2. Article 15 (4): The state is empowered to make any special provision for the advancement of any socially and educationally backward classes of citizens or for the scheduled castes.

3. Article 16(4), 16 (4A) and 16 (4B): Provide for reservation in posts and services.

Background: Roots of the Case (Chronology of the Event)

The case has its origins in 1975 when the Punjab government issued a notification dividing its 25% SC reservation into two categories.

The first category reserved seats solely for the *Balmiki and Mazhabi Sikh communities*, which were economically and educationally backward.

The second category included the rest of the SC communities.

Legal challenges arose when a similar law introduced by Andhra Pradesh in 2000 was struck down by a five-judge Constitution Bench in 2004.

2004 Decision and Its Reversal

In 2004, the Supreme Court held in the E V Chinnaiah v State of Andhra Pradesh case that the SC/ST list is a 'homogenous group' and cannot be further divided.

The court ruled that any attempt to create differentiation within the SC list would violate the Constitution's provisions.

Consequently, sub-classifying SCs was considered impermissible.

Committees for Sub-categorisation

Committee of Secretaries:

It is a five members committee comprising the *Secretaries* of the Home Ministry, Law Ministry, Tribal Affairs Ministry, and Social Justice Ministry and it is *chaired by the Cabinet Secretary.*

Mandate: To look at strategies like special initiatives, focusing existing schemes towards them, etc.

The Committee needs *not to deviate into policy matters* like reservation or break-up of SC quota for employment and education.

There is no deadline given to present its findings. However, it has been asked to do so at the earliest.

Recent Verdict

In August 2024, *a seven-judge Bench,* led by Chief Justice of India, overturned the 2004 decision.

The *new ruling permits states to create sub-classifications within the SC and ST categories.*

These sub-classifications aim to provide wider protections, particularly through fixed sub-quotas, to the most backward communities within SCs and STs.

This decision recognises that not all SCs and STs face identical levels of disadvantage.

Justice B.R. Gavai's opinion stands out: he advocates for introducing the *'Creamy Layer' exception for SCs and STs,* similar to what exists for Other Backward Classes (OBCs).

The 'Creamy Layer' concept sets an income ceiling for reservation eligibility, ensuring that benefits reach those who genuinely need them.

Why Sub-Classification Matters?

Diverse Social Realities:

The SCs and STs encompass a wide range of communities with distinct histories, cultures, and socio-economic conditions. Treating them as a homogenous group overlooks these nuances.

Targeted Benefits:

Sub-classification allows states to tailor reservation policies to address specific degrees of disadvantage. By identifying the most marginalised sub-groups, the benefits can be more effectively targeted.

Significance of Recent Judgements

Graded Inequalities:

The principal argument for sub-categorisation of SCs has been the graded inequalities among SC communities.

The thrust of it has been that even among the marginalised, there are communities that have lesser access to basic facilities.

Unequal Representation:

Some communities are more backward and have less representation than others.

For instance, the Madiga community has claimed that the benefits, including that of reservation, meant for the SC category had been cornered by the Mala community, with the Madigas being left out.

Legal Standpoint:

A five-judge Bench headed by Justice Arun Mishra has affirmed the competence of the States to give preferential treatment to the weakest among the Scheduled Castes without depriving other castes of any benefit.

The Court has noted that the Scheduled Castes list contains many castes and cannot be treated as a homogeneous group.

Equitable Distribution of Benefits:

The Union government has formed a committee of Secretaries to evaluate and work out a method for the equitable distribution of benefits, schemes, and initiatives to the most backward communities amongst the over 1,200 Scheduled Castes across the country.

Recognizing Diversity:

The court acknowledged that 'historical and empirical

evidence indicates that Scheduled castes are not a homogenous class'

This recognition of diversity within the SC community is a departure from the earlier stance.

States and Communities Affected

Maharashtra:

Mahar Community:

Politically active and relatively literate, the Mahar community has made significant strides. Notably, Dr. B. R. Ambedkar, a Mahar himself, played a pivotal role in drafting India's Constitution.

Matang Community:

The second-largest SC community in Maharashtra, the Matangs are predominantly Hindu.

Tribes:

Gond and Bhil are the largest tribes in the state.

Rajasthan:

Meghwal Community:

The largest SC community in Rajasthan, the Meghwals are spread across the state, particularly in border districts.

Bairwa and Jatav:

Dominant in eastern Rajasthan.

Meena Tribe:

Influential in electoral outcomes and well-represented in police and bureaucracy.

Bhil Tribe:

Some Bhils do not consider themselves Hindu and have rallied behind a new tribal party.

Odisha:

Khond Tribe:

Numerically the largest tribal group in Odisha, residing mainly in southern districts.

Santal Tribe:

Second-largest tribal group, followed by the Gonds.

SC Communities:

The Pan community is dominant among the SCs in Odisha.

Chhattisgarh, Madhya Pradesh, West Bengal, Gujarat, Assam, Tripura, and Uttarakhand etc are the most affected states in India.

Possible Hurdles

These are primarily based on the *legal and practical challenges* associated with it.

Legal Challenges: The Supreme Court held that the State did not have the power to unilaterally *sub-categorise communities* in the list of SCs or Scheduled Tribes (STs).

The Constitution has provided that these lists can only be made by Parliament and notified by the President.

Data of socio-economic status: The population data related to SC, ST, and OBC categories are not updated since the 2011 census.

It hampers the objective and scientific basis for sub-categorisation.

Untouchability: The social and educational backwardness cannot be applied to Scheduled Castes and Scheduled Tribes. The special treatment is given to the SCs due to untouchability with which they have suffered since ages.

What Lies Ahead?

States now have the authority to identify different degrees of social backwardness within SCs and STs.

By sub-classifying, they can tailor reservation policies to address specific needs.

The ruling acknowledges that SCs and STs are not monolithic; their experiences vary significantly.

Conclusion

The court's decision opens the door to more nuanced and effective affirmative action. By recognising diversity within SCs and STs, we move closer

to a fairer and more equitable society.

It opens up new possibilities for affirmative action, allowing states to address the unique challenges faced by different sub-groups within SCs and STs. It also sparks discussions about whether the OBC model's 'creamy layer' could serve as a blueprint for ensuring targeted benefits reach those who need them most

LATERAL ENTRY IN CIVIL SERVICES:

Context

Recently, the Union Public Service Commission (UPSC) withdrew an advertisement for lateral recruitment to 45 government posts.

About Lateral Entry in Civil Services

Lateral entry in administration is the appointment of specialists from the private sector in government organisations.

It was recommended by the NITI Aayog in its Three-year Action Agenda and also the Group of Secretaries (GoS) on Governance had in its report recommended the induction of personnel in the middle and senior management level in the government.

Objective:

Lateral entry was introduced to serve the twin purpose of:

- Bringing in domain expertise in the civil services,

- Addressing the problem of shortage of IAS officers at the Centre.

With lateral entry, the government aims to recruit outstanding individuals, with expertise in revenue, financial services, economic affairs, agriculture, cooperation and farmers' welfare, road transport and highway, civil aviation, commerce among many other sectors to serve for the benefit of the country.

Process of Lateral Entry Recruitment

The selection process for lateral entry into administration is conducted by the Union Public Service Commission (UPSC).

The Department of Personnel and Training (DoPT) asks the UPSC to conduct the selection process for lateral entry to various positions in government departments and ministries.

Subsequently, the UPSC invites online applications for lateral recruitment for these positions.

Once the candidates have submitted their application, the UPSC conducts interviews of the shortlisted candidates and recommends the list of selected candidates to the DoPT.

The recommended candidates are then appointed by the Government, generally for a period of 3 to 5 years.

Need for Lateral Entry

Shortage of officers:

- There is a shortage of 22.48% or 1,510 officers for the IAS cadre, according to the DoPT.

- The IAS and the Indian Police Service (IPS) have a combined shortage of 2,418 officers.

Domain Expertise:

- Through lateral entry, domain experts can

be recruited from the private sector to the central administration.

- This can be helpful in improving efficiency and create a competitive environment in governance delivery.

Pros of Lateral Entry in Civil Services

Expertise and Specialization: Lateral entry allows professionals with specialized knowledge and experience from the private sector to contribute to policymaking and implementation, enhancing the quality of governance.

Innovation and Fresh Perspectives: Individuals from diverse backgrounds bring new ideas, innovative approaches, and fresh perspectives, potentially improving efficiency and effectiveness in public administration.

Merit-Based Selection: Lateral entry emphasizes merit, skills, and experience over traditional seniority, promoting a performance-oriented culture within the civil services.

Shortening Learning Curve: Experienced professionals can quickly adapt and contribute without

requiring extensive training, which is often needed for career bureaucrats.

Cons of Lateral Entry in Civil Services

Cultural and Bureaucratic Resistance: The traditional civil services may resist the inclusion of lateral entrants, potentially leading to friction, lack of cooperation, and integration challenges.

Lack of Public Sector Experience: Lateral entrants may lack understanding of government procedures, protocols, and the complexities of public administration, affecting their effectiveness.

Potential for Bias: The selection process for lateral entry could be perceived as biased or politically influenced, raising concerns about transparency and fairness.

Short-Term Focus: Professionals entering laterally may focus on short-term goals rather than long-term public service commitments, potentially affecting the continuity and sustainability of policies.

Way Forward

To address the concerns associated with lateral entry, certain measures can be taken:

- Higher Scrutiny: Appointments at the secretary level should be carefully monitored to ensure they influence policy decisions positively.

- Integration with Public Policy: Even at operational levels like Joint Secretary, Director, and Deputy Secretary, lateral entrants should be in line with public policy objectives.

- Balancing Merit with Social Justice: Appointments should combine technical competence with considerations for reservation and social justice, as emphasized by political philosopher Michael Sandel.

Larger Issues in Indian Bureaucracy

Challenges for Career Bureaucrats: Despite criticisms of red-tapism and inefficiency, career bureaucrats operate in a complex environment bound by numerous rules and political interference.

Preserving Autonomy: The effectiveness of bureaucrats depends on their autonomy,

particularly regarding postings, tenures, and transfers. Strengthening Civil Service Boards at the Centre and State levels, as recommended by the Supreme Court in the T.S.R. Subramanian case (2013), is crucial.

Conclusion

While lateral entry brings certain benefits, it should not overshadow the need to address deeper issues within the Indian bureaucracy.

A balanced approach that includes both career bureaucrats and lateral entrants, with a focus on merit, social justice, and autonomy, is essential for effective governance.

INTERNATIONAL RELATIONS

What's Inside?

August 2024

INDIA TO HOST BIMSTEC BUSINESS SUMMIT

Context:

The Ministry of External Affairs of the Government of India in association with Confederation of Indian Industries (CII) will host the 1st BIMSTEC Business Summit in New Delhi on 06-08 August 2024.

More on news:

The first edition of the Business Summit aims to foster greater regional collaboration through robust trade and investment relations among the member countries of the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC).

The Business Summit will be inaugurated by External Affairs Minister Dr. S. Jaishankar. Minister of Commerce and Industries Shri Piyush Goyal and other leaders will deliver key note addresses. Several Ministers of the BIMSTEC Member States from the ambit of Trade, Commerce and Industry, as well as Energy, along with high-ranking Government officials, policy makers, entrepreneurs and industry associations will participate in the event.

The event will bring together more than 300 key stake holders from across the Bay of Bengal region to facilitate economic collaboration and explore ways ahead in focus areas such as trade facilitation, regional connectivity, energy security, inclusive growth and sustainable development.

India attaches great importance to Bay of Bengal Initiative for Multi Sectoral Technical and Economic Cooperation (BIMSTEC) which links five countries from South Asia (Bangladesh, Bhutan, Nepal, India & Sri Lanka) and two from South-East Asia (Myanmar & Thailand).

What is BIMSTEC?

The Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) is a regional multilateral organisation.

Its members lie in the littoral and adjacent areas of the Bay of Bengal constituting a contiguous regional unity.

Out of the 7 members,

Five are from South Asia –

- Bangladesh

- Bhutan

- India

- Nepal

- Sri Lanka

Two are from Southeast Asia –

- Myanmar

- Thailand

BIMSTEC not only connects South and Southeast Asia, but also the ecologies of the Great Himalayas and the Bay of Bengal.

It mainly aims to create an enabling environment for rapid economic development; accelerate social progress; and promote collaboration on matters of common interest in the region.

What is the Genesis of BIMSTEC?

This sub-regional organization came into being in 1997 through the Bangkok Declaration.

Initially, it was formed with four Member States with the acronym 'BIST-EC' (Bangladesh, India, Sri-Lanka and Thailand Economic Cooperation).

It became renamed 'BIMST-EC' in 1997, following the inclusion of Myanmar.

With the admission of Nepal and Bhutan in 2004, the name of the grouping was changed to 'Bay of Bengal Initiative for

Multi-Sectoral Technical and Economic Cooperation' (BIMSTEC).

What are the Main Objectives of BIMSTEC?

Creating an enabling environment for the rapid economic development of the sub-region.

Encouraging the spirit of equality and partnership.

Promoting active collaboration and mutual assistance in the areas of common interests of the member countries

Accelerating support for each other in the fields of education, science, and technology, etc.

What are the Principles of BIMSTEC?

Sovereign Equality

Territorial Integrity

Political Independence

No-interference in Internal Affairs

Peaceful Co- existence

Mutual Benefit

Constitute an addition to and not be a substitute for bilateral, regional or multilateral cooperation involving the Member States.

JAPAN GIVES NOD TO HUNT SECOND LARGEST ANIMAL, FIN WHALE

Context:

Japan has expanded its commercial whaling to include fin whales, the second-largest animal species on the planet, a decision criticized by Australia's government.

Historical Context and Recent Developments

Japan, one of only three countries that hunt whales commercially alongside Norway and Iceland, has added fin whales to its catch list, which already includes minke, Bryde's, and sei whales.

Japan has a long history of whaling, with whale meat being a key protein source post-World War II.

After an International Whaling Commission (IWC) moratorium on commercial whaling, Japan continued hunting whales for "scientific" purposes until quitting the IWC in 2019.

Japan resumed commercial whaling in its territorial waters and exclusive economic zone, killing 294 whales last year, a number it considers sustainable.

A panel of experts from Japan supported the hunting of fin whales, describing them as "an important food resource."

Fin Whale

About

The fin whale (Balaenoptera physalus), also known as the finback whale or common rorqual, is a baleen whale species and the second-longest cetacean after the blue whale.

The largest recorded individual reached 26 meters in length and weighed between 77 to 81 tonnes.

Its long, slender body is brownish-gray with a paler underside, a form of countershading

that makes it less visible from below.

Subspecies

Two main subspecies of fin whales are recognized: one in the North Atlantic and another across the Southern Hemisphere.

Habitat

Fin whales are found in all major oceans from polar to tropical waters, excluding regions close to polar ice packs and some small areas away from the open ocean.

They are most densely populated in temperate and cool waters and less common in the warmest equatorial regions.

North Atlantic:

Extends from the Gulf of Mexico and Mediterranean Sea to Baffin Bay and Spitsbergen, with a summer feeding range mainly between 41°20'N and 51°00'N.

North Pacific:

Includes waters from central Baja California to Japan, and as far north as the Chukchi Sea.

Their migration pattern is not fully understood, but they are known to feed in high-latitude areas during summer and migrate south in the autumn.

Southern Hemisphere:

Primarily migratory, moving from high-latitude Antarctic feeding grounds in summer to low-latitude breeding areas in winter.

Predation

The fin whale's only known predator is the killer whale.

Feeding

Fin whales are filter feeders, primarily consuming small schooling fish, squid, and crustaceans like krill.

Their feeding technique involves lunging at high speeds to engulf large volumes of water, which is then filtered through their baleen plates.

They can consume up to 1,800 kg (4,000 lb) of food daily.

Human Interaction

Whaling

Historically, fin whales were heavily hunted during the "golden age" of whaling.

Over 700,000 fin whales were taken from the Southern Hemisphere alone between 1904 and 1975.

Though whaling has decreased, fin whales are still hunted in some regions under specific quotas, and commercial whaling continues in certain countries.

Ship Collisions

Collisions with ships are a significant cause of mortality for fin whales, particularly in areas with heavy maritime traffic. Efforts have been made to monitor and mitigate these risks.

Whale Watching

Fin whales are a popular attraction for whale watching, particularly in regions like Monterey Bay, the Gulf of St. Lawrence, and the Strait of Gibraltar. They are commonly observed from land and sea during specific seasons.

Conservation

They are listed as vulnerable by the IUCN and are protected under various international agreements and national regulations.

Despite ongoing threats from entanglement in fishing gear and potential impacts from military sonar, their populations are recovering, though they remain at risk from human activities.

MULTIDIMENSIONAL VULNERABILITY INDEX

CONTEXT:

The UN General Assembly launched the Multidimensional Vulnerability Index (MVI) to assist small island developing states (SIDS) in securing low-interest financing.

Since the 1990s, SIDS that don't qualify for low-interest development loans due to their relatively higher GDP per capita have been advocating for a measure that accounts for their vulnerability to external shocks like climate change.

Multidimensional Vulnerability Index (MVI)

The MVI is a new international quantitative benchmark to measure structural vulnerability and the lack of structural resilience across multiple dimensions of sustainable development at the national level.

It can be used to complement Gross National Income (GNI) per capita.

The conceptual framework elaborates the three dimensions of sustainable development i.e., economic, environmental, and social.

Key Observations by MVI Panel

Correlation: Countries with high structural vulnerability tend to have low structural resilience.

Income Independence: MVI scores are not correlated with income, making it a valuable complement to GNI.

Small Island Developing States (SIDS): The MVI does not discriminate against small countries, 70% of SIDS score above the median.

Ranking and Thresholds: The majority of countries are moderately vulnerable. As a result, it is difficult to establish a vulnerability threshold or cutoff similar to the income cutoffs commonly used to allocate development aid.

INDIA-CHINA RELATIONS

Context:

India-China relations have become one of the most important bilateral relations and the formulation of 'five mutuals' can help bring China-India relations back to a stable and sound track.

About Five Mutuals for Better India-China Relations

China and India are close neighbors.

- Both learned from each other in ancient times, shared weal and woe in modern times, and have a common cause of rejuvenation today.

Mutual Respect:

- It is the *prerequisite* for the development of China-India relations.

  - As two ancient civilisations, both China and India have their *own uniqueness* in terms of dietary habits, lifestyles, cultural traditions and development paths.

  - In the new era, it is of even greater significance to view each other with an *open mind, respect each other's development path, social system and role on the world stage, and jointly promote development and prosperity* of the two countries, the region and the world.

Mutual Understanding:

- It is the basis of the development of India-China relations.

  - The two peoples *empathized with and supported each other* in their respective struggles for *national independence and liberation.*

  - Both countries are *among the largest developing countries.* There is a need to further *promote dialogue and communication at all levels in various fields,* encourage the two peoples to have *more exchanges,* and promote mutual understanding and political trust, so as to consolidate the political and public foundation for the development of bilateral relations.

Mutual Trust:

- It is the *key* to the development of India-China relations.

  - As the international situation is more volatile and uncertain than before, China and India *should avoid mutual suspicion and attrition* in order to rise together.

  - Both could work together for *peaceful coexistence and insist on resolving disputes* in a peaceful manner.

Mutual Accommodation:

- It is the *guarantee* of the development of India-China relations. China and India are neighbors who cannot be moved away.

  - As both inherit the political wisdom of ancient oriental civilisations, it is believed that they can find effective ways to mutually accommodate each other's core interests and major concerns, properly handle differences through dialogue, and reach a mutually acceptable solution.

Mutual Accomplishment:

- It is the *direction* of the development of India-China relations.

  - As *important emerging economies,* China and India are both at a critical stage of national development and revitalisation, and

enjoy broad common interests and the space for cooperation.

India has the vision of *"Viksit Bharat 2047"* and China is advancing Chinese *modernisation on all fronts.*

- Both need to work together to *help each other succeed, achieve common development and revitalisation,* *promote the unity and cooperation of the Global South,* and join hands to build a community with *a shared future for mankind.*

SOCIETY & SOCIAL JUSTICE

PM VISHWAKARMA YOJANA SCHEME

Context:

On India's 77th Independence Day, Prime Minister announced the upcoming launch of the 'Vishwakarma Yojana' which is set to be introduced on Vishwakarma Diwas (September 17).

Pradhan Mantri Vishwakarma Yojana:

Through this scheme, the skill system of the country is being adapted to the needs of the artisans of the nation. By taking advantage of the scheme, traditional artisans will be able to scale their skills.

Through the scheme, by providing training and financial assistance to the skilled artisans and workers of every district, their skill, art and talent will be established at the national and international level.

Under the scheme, skill verification of craftsmen and artisans like carpenters, blacksmiths, gold smiths will be done at the district level. They will also be given training as per requirement. A stipend of Rs 500 will be given every day during the training.

After training and skill verification, they will be given the PM Vishwakarma certificate. Every beneficiary will be given Rs 15,000 for the tool kit. An easy loan facility will be provided to start or expand your business.

There is a provision for a collateral-free loan of Rs 1 lakh at the rate of 5% in the first phase, and a loan of Rs 3 lakh in the second phase.

The minimum age of the artisan should be 18 years. The benefit of the scheme will be limited to one member of each family. Any person working in government service, or his relatives will not be eligible.

MGNREGS: STATES FALL BEHIND IN PAYING UNEMPLOYMENT AID

Context:

According to the Ministry of Rural Development, work demand under the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) fell sharply in July 2024.

What Does a Decline in Demand for Work under the MGNREGS Indicate?

Current State of Demand for Work:

Approximately 22.80 million individuals sought work under the scheme in July, reflecting a 21.6% decline from the same period in 2023.

These individuals represented 18.90 million households, a decrease of 19.5% year-over-year and 28.4% compared to June 2024.

On a month-to-month basis, the number of people seeking work dropped by 33.4% in July 2024.

In July 2024, fewer individuals submitted work demands in key states like Tamil Nadu, Andhra Pradesh, Karnataka and Telangana .

Reasons For Decline in Demand Work:

Strong Economic Activity:

Work demand under MGNREGS usually drops when better-paying employment opportunities are available due to strong economic growth, possibly reflecting robust economic activity.

The economy grew at a higher-than-anticipated pace of 8.2% in the last Fiscal Year (FY) 2023-24.

The International Monetary Fund

(IMF) predicts India will be the fastest-growing major economy, with growth rates of 7% in FY 2024-25 and 6.5% in 2025-26, both exceeding the global average.

Impact of Monsoon:

The monsoon typically causes large-scale migration of rural workers to villages for crop sowing, reducing the demand for unskilled jobs under the MGNREGS.

In 2024, abundant seasonal showers in July reduced the 11% rainfall deficit seen in June.

What is Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS)?

About:

MGNREGS is one of the largest work guarantee programmes in the world launched in 2005 by the Ministry of Rural Development.

It guarantees 100 days of employment each financial year for adult members of rural households willing to perform unskilled manual work at the statutory minimum wage.

Implementation Agency:

The Ministry of Rural Development monitors the entire implementation of this scheme in association with state governments.

Major Features:

The cornerstone of MGNREGA's design is its legal guarantee, ensuring that any rural adult can request work and must receive it within 15 days.

If this commitment is not met, an "unemployment allowance" must be provided. It requires that priority shall be given to women in such a way that at least one-third of the beneficiaries shall be women who have registered and requested for work.

Section 17 of the Mahatma Gandhi NREGA, 2005 mandates the Gram Sabha to conduct social audits of works undertaken under the scheme.

Objective:

It was introduced with an aim of improving the purchasing power of the rural people, primarily semi or unskilled work to people living below poverty line in rural India.

It attempts to bridge the gap between the rich and poor in the country.

Current Status:

Budget Allocation:

For the financial year 2023-24, the government allocated approximately Rs 73,000 crore to MGNREGA, reflecting an increase from previous years to meet the rising demand for employment.

Employment Generation:

In the FY 2022-23, MGNREGA provided over 300 crore person-days of work, with approximately 11 crore households participating in the scheme.

Wage Payments:

The Centre has notified a 3-10% increase in the wage rates for MGNREGA workers for the FY 2024-25.

The average wage for 2024-25 is Rs 289 as against Rs 261 for FY 2023-24.

Project Focus:

The scheme has increasingly focused on sustainable development projects, such as water conservation, afforestation, and rural infrastructure enhancement. Over 60% of the works undertaken are related to natural resource management.

AYUSH TO BE INCLUDED IN AB PM-JAY

Context:

Inclusion of AYUSH packages under AB PM-JAY have been proposed. In this regard, it may kindly be noted that meetings between NHA and Ministry of AYUSH, GoI have been held for necessary deliberation on the implementation model for the proposed convergence of AYUSH packages with AB PM-JAY.

I. Central Government employees and pensioners enrolled in the Central Government Health Scheme (CGHS) have access to healthcare services through allopathic as well as Ayush i.e. Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homeopathy systems of medicine.

II. At present, CGHS has 54 empanelled Ayush Day Care Therapy Centres in Delhi/NCR and 45 empanelled IPD (In-Patient Department) Ayush Health Care Organisations (HCOs) across the country. These facilities offer comprehensive health care for CGHS beneficiaries in Ayurveda, Yoga & Naturopathy, Unani, and Siddha system of medicine in accordance with CGHS-approved procedures and rates.

This network underscores the government's commitment to providing diverse healthcare options that include Ayush systems, thereby catering to the holistic health needs of Central Government employees and pensioners under CGHS.

(ii) The Ministry of Ayush implemented a Central Sector Scheme of Ayurswasthya Yojana since FY 2021-22. The Scheme has 02 components viz.-

Under the AYUSH and public Health Component of Ayurswasthya Yojana, there is provision of distribution of AYUSH medicines and organize free medical camps in such localities like rural, tribal population and slums in cities etc. the population to be covered under this component will be at least

1.5 lakhs. Minimums 1000 persons should be benefited by medical intervention.

III. Public Health being a State subject, the primary responsibility to ensure the availability of Ayush treatment lies with State/UT Governments. However, Ministry of Ayush is implementing the Centrally Sponsored Scheme of National Ayush Mission (NAM) through State/UT Governments for development and promotion of Ayush system and supporting their efforts for providing treatment facilities to the community through Ayush system of medicines under different activities as per the provision of NAM guidelines.

The Mission inter-alia makes provision for the following: -

(i) Operationalization of Ayushman Arogya Mandir (Ayush) by upgrading existing Ayush dispensaries and Health Sub-centres

(ii) Co-location of Ayush facilities at Primary Health Centres (PHCs), Community Health Centres (CHCs) and District Hospitals (DHs)

(iii) Supply of essential drugs to Government Ayush Hospitals, Government Dispensaries and Government/ Government aided Teaching Institutional Ayush Hospitals

(iv) Upgradation of existing standalone Government Ayush Hospitals

IV. Upgradation of existing Government/ Panchayat/Government aided Ayush Dispensaries/Construction of building for existing Ayush Dispensary (Rented/dilapidated accommodation)/ Construction of building to establish new Ayush Dispensary

(vi) Setting up of 50/30/10 bedded integrated Ayush Hospitals

(vii) Ayush Public Health Programs

(viii) Establishment of new Ayush colleges in the States where availability of Ayush teaching

institutions is inadequate in Government Sector

(ix) Infrastructural development of Ayush Under-Graduate Institutions

(x) Infrastructural development of Ayush Post-Graduate Institutions/add on PG/ Pharmacy/ Para Medical Courses

PRADHAN MANTRI JI-VAN YOJANA

Context

Government had notified the Pradhan Mantri JI-VAN Yojana (Jaiv Indhan- Vatavaran Anukool fasal awashesh Nivaran). The scheme was for providing financial support to integrated bio-ethanol projects for setting up second-generation (2G) ethanol projects in the country using lignocellulosic biomass and other renewable feedstocks.

Key Objectives of the Pradhan Mantri JI-VAN Yojana:

Promotion of Biofuel Production: The scheme seeks to promote the production of ethanol, a biofuel, from biomass and other renewable resources, such as agricultural waste (e.g., crop residues, forestry residues), municipal solid waste, and other non-food sources.

Reduction of Crop Burning: By providing a market for agricultural residues, the scheme aims to reduce the practice of crop burning, which is a significant contributor to air pollution in India, especially in the northern states.

Support to Farmers: The scheme is designed to provide an additional source of income to farmers by creating a market for agricultural residues that would otherwise be wasted or burned.

Environmental Benefits: It aims to reduce greenhouse gas emissions by promoting the use of cleaner, renewable energy sources. The use of ethanol as a fuel blend can reduce dependency on fossil fuels and lower carbon emissions.

Energy Security: The production of ethanol from renewable resources is intended to reduce India's dependence on imported crude oil, thus enhancing the country's energy security.

Waste management: To contribute to the Swacch Bharat Mission by supporting the aggregation of non-food biofuel feedstocks such as waste biomass and urban waste.

Implementation and Financial Outlay

The scheme is implemented by the Ministry of Petroleum and Natural Gas (MoPNG).

The total financial outlay for the scheme is ₹1,968.50 crores for the period 2018-19 to 2023-24.

The scheme focuses on setting up 2G (second-generation) ethanol bio-refineries across the country, which will use agricultural residues and other renewable feedstocks for ethanol production.

Second Generation (2G) Ethanol

With an objective to augment ethanol supplies, the Government allowed procurement of ethanol produced from other non-food feedstock besides molasses, like cellulosic and lignocellulosic materials including petrochemical route. Oil PSUs have planned to establish 2G ethanol bio-refineries in various parts of the country.

BONDA TRIBE-PVTG

Context:

Recently, a 19-year-old student cracked the National Eligibility-cum-Entrance Test (NEET), who is set to become the first member of the Bonda tribal community.

About Bonda Tribe:

The Bondas are exclusively found in *Malkangiri district of Odisha* and are mostly concentrated in Khairaput block of the district.

It is a *particularly vulnerable tribal group* and one of the oldest tribes of India.

They are also known as *Bondo, Bondas, Bonda Paraja, and Bhonda.*

They belong to the *Austro-Asiatic racial* stock and speak *Remo*-an Austro-Asiatic dialect.

What is a Particularly Vulnerable Tribal Group (PVTG)?

PVTGs are *more vulnerable among the tribal groups.*

Due to this factor, more developed and assertive tribal groups take a major chunk of the tribal development funds, because of which PVTGs need more funds directed for their development.

In this context, in 1975, the Government of India declared 52 tribal groups as PVTGs on the recommendation of the *Dhebar Commission.*

Currently, there are *75 PVTGs out of 705 Scheduled Tribes.*

The PVTGs are spread over 18 states and one Union Territory (UT), in the country (2011 census).

Odisha has the highest number (more than 2.5 lakh) of PVTGs.

Characteristics of PVTGs:

• Population – stagnant/declining

• Technology – pre-agricultural

• Literacy Level – extremely low

• Economy – Subsistence level

EDUCATION MINISTRY DEFINES 'LITERACY,' 'FULL LITERACY

Context:

The Union Ministry of Education (MoE) has recently defined "literacy" and outlined the criteria for "full literacy" under the New India Literacy Programme (NILP) to enhance adult literacy across States.

New India Literacy Programme (NILP):

Type of scheme: Centrally Sponsored Scheme.

Aim: The goal is to impart foundational literacy and numeracy to one crore learners aged 15 years and above across all states and union territories each year from FY 2022-27.

Key features:

Also known as *ULLAS (Understanding of Lifelong Learning for All in Society).*

Also to cover all the aspects of Adult Education to align with National Education Policy 2020 has been approved.

Implemented through volunteer teachers, students of schools and Higher Education Institutions and Teacher Education Institution.

Critical life skills

(including financial literacy, digital literacy, commercial skills, health care and awareness, child care and education, and family welfare),

Vocational skills development (with a view towards obtaining local employment),

Basic education (including preparatory, middle, and secondary stage equivalency); and

Continuing education (including engaging holistic adult education courses in arts, sciences, technology, culture, sports, and recreation, as well as other topics of interest or use to local learners, such as more advanced material on critical life skills).

Definition of literacy and full literacy

Literacy: May be understood as the ability to read, write, and compute with comprehension, i.e. to identify, understand, interpret and create along with critical life skills such as digital literacy, financial literacy etc.

Full literacy: To be considered equivalent to 100% literacy, will be achieving 95% literacy in a State/UT that may be considered as equivalent to fully literate.

Criteria for literacy certification:

Non-literate person may be **considered as literate under the NILP,** when she/he has been declared literate **after taking the Foundational Literacy and Numeracy Assessment Test (FLNAT).**

Economic
Development
& Agriculture

MAKE IN INDIA

What's Inside?

CAPITAL GAINS TAX

Context:

Following criticism over the Budget proposal to remove the indexation benefit on long-term capital gains (LTCG) from selling unlisted assets, the government has decided to offer taxpayers a choice.

For properties acquired before July 23, 2024, taxpayers can either pay LTCG tax at 20% with the indexation benefit or pay LTCG tax at the new rate of 12.5% without the indexation benefit.

This change comes from amendments made by the government in the Finance Bill.

What is Capital Gain Tax?

About

A capital gains tax is a tax imposed on the sale of an asset. It is calculated as the difference between the sale price of the property and its purchase price.

Any gain or loss incurred from the sale of a house property may be subject to tax under the 'Capital Gains' head.

Similarly, capital gains or losses may arise from sale of different types of capital assets such as stocks, mutual funds, bonds and other investments.

Types

Depending of the period an asset is held with the owner, there are two types of capital gains - Short-term Capital Gains and Long-term Capital Gains.

Budget 2024 and Capital Gain Tax

For classifying assets into long-term and short-term, there will only be two holding periods: 12 months and 24 months.

The 36-month holding period has been removed.

All listed securities with a holding period exceeding 12 months are considered Long-Term. The holding period for all other assets is 24 months.

The taxation of Short-Term Capital Gain for listed equity shares, a unit of an equity-oriented fund, and a unit of a business trust has been increased to 20% from 15%.

Other financial and non-financial assets which are held for short term shall continue to attract the tax at slab rates.

The limit on the exemption of Long-Term Capital Gains on the transfer of equity shares or equity-oriented units or units of Business Trust has increased from Rs.1 Lakh to Rs.1.25 lakh per year.

However, the rate at which it is taxed has increased from 10% to 12.5%.

The tax on long-term capital gains on other financial and non-financial assets is reduced from 20% to 12.5%.

RBI MONETARY POLICY

CONTEXT:

RBI keeps repo rate unchanged at 6.5% for ninth time in row

Why did the MPC decide to keep the policy rate unchanged?

Food inflation:

RBI has been raising concerns over elevated food inflation over the past many months, as it could derail the disinflation path.

Food component of retail inflation remains stubborn. Food inflation contributed around

70 per cent of the overall retail inflation.

Retail inflation, also known as Consumer Price Index (CPI) inflation, tracks the change in retail prices of goods and services which households purchase for their daily consumption.

About Monetary Policy Committee (MPC)

Reserve Bank of India Act, 1934 (RBI Act) has been amended by the Finance Act, 2016 to provide for a statutory and institutionalized framework for a MPC.

Under Section 45ZB of the amended RBI Act, 1934: The central government is empowered to constitute a six-member MPC.

Composition: It includes three central bank officials and three external members appointed by the government.

Three central bank officials: RBI Governor(Chairperson), Deputy Governor and Executive Director Rajiv Ranjan.

Reconstitution & Reappointment: The MPC is reconstituted every four years and members are not eligible for reappointment.

Function: The MPC is entrusted with the task of fixing the benchmark policy rate (repo rate) required to contain inflation within the specified target level.

Inflation Targets:

If the average inflation is more than the upper tolerance level of 4% + 2%, that is, 6%, or less than the lower tolerance level of 4% – 2%, that is, 2%, for any three consecutive quarters, it would mean a failure to achieve the inflation target.

Failure to Meet the Target: If RBI fails to meet the inflation target, it shall set out in a report to the Central Government

Quorum: There shall be four Members, at least one of whom shall be the Governor and, in his absence, the Deputy Governor, who is the Member of the MPC.

Decision Making: The MPC takes decisions based on a majority vote.

In case of a tie: RBI governor will have the second or casting vote.

Binding Decision: The decision of the MPC would be binding on the RBI.

What is Repo Rate?

The repo rate is the interest rate at which the central bank lends money to commercial banks for a short period, typically one day.

Repo: The term "repo" stands for "repurchase agreement," which means that the borrowing bank agrees to repurchase the securities it has sold to the central bank at a later date, often the next day, at a slightly higher price

Difference is the Interest: The difference between the selling price and repurchase price represents the interest earned by the central bank on the transaction.

GOVERNMENT PERMITS 100% FOREIGN DIRECT INVESTMENT VIA AUTOMATIC ROUTE FOR AIRCRAFT MAINTENANCE, REPAIR AND OVERHAUL (MRO)

Context:

In a major boost to the domestic MRO industry and to the aviation sector, the Government has announced that a uniform rate of 5% IGST will apply to imports of Parts components, testing equipment, tools and tool-kits of aircraft, irrespective of their HSN classification subject to specified conditions. This policy change is a crucial step towards

enhancing the competitiveness of the Indian MRO sector, fostering innovation and efficiency and creating a robust and efficient aviation sector.

More on news:

The Government has taken several steps to facilitate setting up of aircraft Maintenance, Repair and Overhaul (MRO) services in India through various policy, regulatory and other incentives which include:

As part of the announcements made in Union Budget 2024-25, the period for export of goods imported for repairs has been extended from six months to one year. Also, the time-limit for re-import of goods for repairs under warranty has been extended from three to five years.

New MRO Guidelines announced on 1st September, 2021 inter alia abolish royalties and build in transparency and certainty in land allotments for MROs in AAI airports.

GST on MRO has been reduced from 18% to 5% with full Input Tax Credit from 1st April, 2020.

Transactions sub-contracted by foreign original equipment manufacturers (OEMs)/ MRO to domestic MRO are treated as 'exports' with zero-rated GST from 1st April, 2020

Exempted Customs Duty on tools and tool kits

Simplified clearance processing of parts

100% Foreign Direct Investment permitted via automatic route for MRO

RBI TIGHTENS NORMS FOR DEPOSIT-TAKING HOUSING FINANCE FIRMS

Context

Recently RBI tightens liquidity norms for mortgage lenders, puts them at par with NBFCs

Why in News?

Recently, the Reserve Bank of India (RBI) Governor has urged banks to develop innovative product offerings to boost deposit growth.

This comes in response to a slower deposit growth rate compared to the surge in credit demand, which poses potential risks to the banking sector's liquidity.

In another development, the RBI has tightened liquidity norms for housing finance companies (HFCs), aligning them with regulations for non-banking financial companies (NBFCs), to strengthen the financial stability of these institutions.

What are the RBI's New Liquidity Norms for HFCs?

New Liquidity Requirements: HFCs that raise

public deposits will now need to maintain higher liquid assets to ensure financial stability.

The liquid asset requirement has been increased from 13% to 15% in stages: HFCs must raise liquid assets to 14% by 1st January 2025. This percentage must be further increased to 15% by July 2025.

HFCs will now be required to obtain a minimum investment-grade credit rating at least once a year to continue accepting public deposits.

If an HFC's credit rating falls below the required grade, it will not be permitted to renew existing deposits or accept new ones until the rating improves.

This measure ensures that only financially sound HFCs can accept public deposits, reducing the risk to depositors.

The maximum tenure for public deposits at HFCs has been reduced from ten years to five years.

Existing deposits with maturities beyond five

years will be allowed to mature according to their original terms, but new deposits cannot exceed the five-year limit.

This reduction in tenure helps mitigate long-term liquidity risks.

The RBI has lowered the ceiling on the quantum of public deposits that an HFC can hold, from three times to 1.5 times its net owned funds (NoF). HFCs holding deposits above this new limit will not be allowed to accept new deposits or renew existing ones until they comply with the revised ceiling.

This measure aims to prevent over-leveraging by HFCs, ensuring they maintain a healthy balance between their liabilities and assets.

Alignment with NBFC Regulations: Previously, HFCs operated under more relaxed prudential norms compared to NBFCs, particularly in terms of deposit acceptance.

The RBI's new guidelines aim to eliminate these discrepancies, treating HFCs similarly to deposit-taking NBFCs. This alignment addresses the uniform regulatory concerns associated with deposit acceptance across all NBFC categories.

STATES CAN DIRECTLY BUY RICE FROM FCI, SAYS FOOD MINISTER

Context:

The Union Food and Consumer Affairs Minister announced that States can now directly purchase rice from the Food Corporation of India (FCI) under the Open Market Sale Scheme (Domestic) without participating in e-auctions.

Key Announcements:

Direct Rice Purchase of Rice by the States:

States can procure rice directly from FCI at ₹2,800 per quintal (excluding transportation cost), down from the earlier rate of ₹2,900 per quintal.

This new rate applies to rice procured over the stipulated 5 kg of free grain per individual under the Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY).

Launch of Price Monitoring System (PMS) 4.0:

Minister Joshi launched the 4.0 version of the Price Monitoring System (PMS) mobile app.

The app, which previously monitored prices of 22 commodities daily, will now include 38 commodities.

The additional 16 food items are bajra (whole), jowar (whole), ragi (whole), suji (wheat), maida (wheat), besan, ghee, butter (pasteurised), brinjal, egg, black pepper, coriander, cumin seed, red chillies, turmeric powder, and banana.

About Open Market Sale Scheme

Purpose

Enhance the supply of food grains, especially wheat, during the lean season to moderate open market prices, especially in deficit regions.

Administered by

Food Corporation of India (FCI)

Method of Sale

Surplus stocks of wheat and rice sold at pre-determined prices through e-auction on the National Commodity and Derivatives Exchange (NCDEX) platform.

Participants

Bulk consumers, private traders, State Governments, and Union Territory Administrations

Auction Frequency

Weekly

Reserve Price

Fixed by the government; bidders cannot quote less than the reserve price.

Schemes under OMSS

Sale of wheat to bulk consumers/private traders through e-auction.

Sale of wheat to bulk consumers/private traders through e-auction by dedicated movement.

Sale of Raw Rice Grade 'A' to bulk consumers/private traders through e-auction.

PYQ:

[2017] Which of the following is/are the advantage/advantages of implementing the 'National Agriculture Market' scheme?

1. It is a pan-India electronic trading portal for agricultural commodities.

2. It provides the farmers access to nationwide market, with prices commensurate with the quality of their produce.

Select the correct answer using the codes given below:

(a) 1 only

(b) 2 only

(c) Both 1 and 2

(d) Neither 1 nor 2

Ans.

SDG INDEX 2023-2024

Context:

The NITI (National Institution for Transforming India) Aayog has released its latest Sustainable Development Goal (SDG) India Index for 2023-24, showing significant progress in sustainable development across states and union territory of India.

What is the SDG India Index?

About: The SDG India Index is a tool developed by NITI Aayog to measure and track India's progress towards the SDGs set by the United Nations.

The Index supports the localization of SDGs, encouraging states to integrate these goals into their development plans.

It serves as a benchmark for policymakers to identify gaps and prioritise actions towards achieving sustainable development by 2030.

Methodology: The Index assesses the performance of states and union territories (UTs) across 16 SDGs using a set of indicators aligned with national priorities.

The SDG India Index measures national progress using 113 indicators aligned to the National Indicator Framework.

Goal-wise scores are computed for the 16 SDGs, and overall composite scores are derived for each State/UT. Goal 14 (Life Below Water) has not been included in the calculation of the Composite Score for the Index as it solely pertains to the nine coastal States.

Scores range from 0-100, with higher scores indicating greater progress toward SDG targets.

State/UTs are categorised based on their SDG India Index score as follows: Aspirant: 0–49,

Performer: 50–64, Front-Runner: 65–99, and Achiever: 100.

Impact on Development: The Index promotes competitive and cooperative federalism, encouraging States and UTs to learn from each other and close outcome-based gaps.

It provides a comprehensive analysis of progress, highlighting achievements and areas needing improvement.

India fully integrated the SDGs into its national development strategies and is proud of its SDG localisation model based on institutional ownership, collaborative competition, capacity building, and a whole-of-society approach.

The Index serves as a barometer for measuring progress towards Viksit Bharat @ 2047 and informs national and subnational development strategies.

What are the Key Highlights of the SDG India Index for 2023-24?

Overall Progress: India's overall SDG score improved to 71 in 2023-24 from 66 in 2020-21 and 57 in 2018. All states have shown
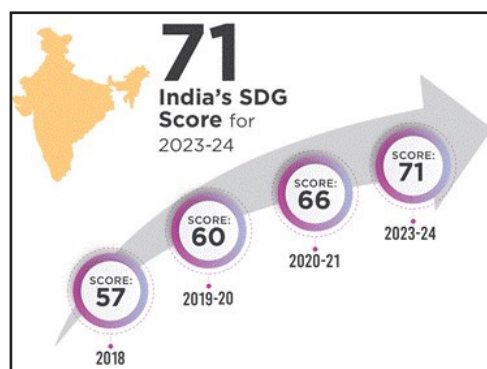
improvement in overall scores. Progress has been largely driven by targeted government interventions in poverty reduction, economic growth, and climate action.

Top Performers: Kerala and Uttarakhand emerged as the best-performing states, each scoring 79 points.

Lowest Performer: Bihar lagged behind with a score of 57 points, followed by Jharkhand at 62 points.

Front-Runner States: 32 states and union territories (UTs) are in the front-runner category, with 10 new entrants including Arunachal Pradesh, Assam, Chhattisgarh, and Uttar Pradesh.

Specific SDGs:

Overview of the Goals: The goals «No Poverty», «Decent Work and Economic Growth», and «Life on Land» showed the highest increase in points across states from 2020-21 scores, while «Gender Equality» and «Peace, Justice, and Strong Institution» had the smallest increase.

"Reduced Inequalities" was the only goal to decrease in points from 67 in 2020-21 to 65 in 2023-24. This reduction reflects the distribution of wealth and suggests that in many parts of

SDG	Key Highlights
Goal 1: No Poverty	Improved score from 60 in 2020-21 to 72 in 2023-24, 99.7% was offered employment of the persons demanding employment under **MGNREGA in 2023–2024.**
Goal 2: Zero Hunger	Improvement in overall composite score from Aspirant to Performer category. 99.01% beneficiaries covered under **National Food Security Act (NFSA), 2013.**
Goal 3: Good Health and Well-being	Overall score improved from 52 in 2018 to 77 in 2023-24. 93.23% children aged 9-11 months are fully immunised, and the Maternal Mortality Rate per 1,00,000 live births stands at 97.
Goal 4: Quality Education	Adjusted Net Enrolment Rate (ANER) for elementary education is 96.5% for 2021-22. 88.65% of schools have access to both electricity and drinking water. ▪ 100% parity between females and males in Higher Education (18-23 years).
Goal 5: Gender Equality	Overall score improved from 36 in 2018 to 49 in 2023-24. Sex ratio at birth (females per 1,000 males) stands at 929.
Goal 6: Clean Water and Sanitation	Significant improvement in score from 63 in 2018 to 89 in 2023-24. 99.29% of rural households have improved their source of drinking water. ▪ 94.7% of schools have functional toilets for girls.
Goal 7: Affordable and Clean Energy	▪ **Highest score amongst all SDGs also significant improvement from 51 in 2018 to 96 in 2023-24.** ▪ 100% households have access to electricity under the **Saubhagya Scheme.** ▪ Significant improvement in households have clean **cooking fuel (LPG + PNG) connections from 92.02% (2020) to 96.35% (2024)**
Goal 8: Decent Work and Economic Growth	▪ ٪٥,٨٨ annual growth rate of India's GDP per capita at constant prices in ٢٣-٢٠٢٢. ▪ **Reduction in unemployment rate** from ٪٦,٢ in ١٩-٢٠١٨ to ٪٣,٤٠ in ٢٣-٢٠٢٢.

Goal 9: Industry, Innovation and Infrastructure	▪ Improvement in score from 41 in 2018 to 61 in 2023-24. 99.70% of targeted habitations connected with all-weather roads under **PM Gram Sadak Yojana.**
Goal 10: Reduced Inequalities	▪ **Decrease in points from 67 in 2020-21 to 65 in 2023-24.** ▪ 45.61% seats of Panchayati Raj Institutions held by women. 28.57% representation of SC/ST persons in state legislative assemblies.
Goal 11: Sustainable Cities and Communities	▪ Significant improvement in score from 39 in 2018 to 83 in 2023-24. The percentage of municipal solid waste processed has increased from 68% in 2020 to 78.46% in 2024. ▪ 97% of wards have 100% door to door waste collection.
Goal 12: Responsible Consumption and Production	▪ 91.5% of biomedical waste generated is treated in 2022. ▪ 54.99% hazardous waste recycled/utilized in 2022-23. ▪ Drastic improvement from 54 (Performer category) in 2020-21 to 67 (Front Runner category) in the SDG India Index 4 (2023-24).
Goal 13: Climate Action	▪ Disaster preparedness score as per Disaster Resilience Index stands at 19.20. ▪ Improvement in electricity generation from renewable energy from 36.37% in 2020 to 43.28% in 2024. ▪ 94.86% of industries comply with environmental standards.
Goal 14: Life Below Water	▪ **Goal 14 has not been included in the calculation** of the Composite Score for the Index as it solely pertains to the nine coastal States
Goal 15: Life on Land	▪ Score improved from 66 in 2020-21 to 75 in 2023-24. Nearly 25% of geographical area under forests and tree cover.
Goal 16: Peace, Justice and Strong Institutions	▪ 95.5% of the population is under Aadhaar coverage as of March 2024. ▪ 71.3% charge sheeting rate of IPC crimes as per NCRB 2022.

India, there are high levels of inequality, particularly in relation to employment opportunities at the lower end of the socioeconomic spectrum. The goal of reducing inequalities also includes addressing gender inequality in workforce participation.

Gender Equality received the lowest score among all goals, with a marginal increase from the previous year. Issues such as sex ratio at birth, women owning land and assets, employment, and labour force participation rate are areas of concern, particularly in states with below 900 sex ratio at birth.

The Quality of Education goal increased by 4 points to 61, highlighting that some states, particularly in central India, still face challenges. The main issue in India is not access, but rather the quality of education, which impacts employment opportunities.

The composition of NITI Aayog includes the Prime Minister as Chairperson, Chief Ministers of all states and Lt. Governors of Union Territories in the Governing Council, and experts nominated by the Prime Minister as Special Invitees.

Chief Executive Officer appointed by the Prime Minister for a specific term, holding the rank of Secretary to the Government of India.

The NITI Aayog recognises the need for a more flexible approach to economic planning in India, taking into account the diverse strengths and weaknesses of its states. This shift is necessary to make India competitive in the global economy.

The key objectives are to promote cooperative federalism with states, develop plans at the village level, incorporate national security into economic strategy, focus on marginalised sections of society, encourage partnerships with stakeholders and think tanks, create a support system for knowledge and innovation, resolve inter-sectoral issues, and maintain a resource centre for good governance and sustainable development practices.

NITI Aayog

The Planning Commission in India was replaced by NITI Aayog in 2015, with a shift towards a 'Bottom-Up' approach and emphasis on cooperative federalism.

Major Initiatives: SDG India Index, Composite Water Management Index, Atal Innovation Mission, Aspirational District Programme, Health Index, India Innovation Index, and Good Governance Index.

UPSC Civil Services Examination, Previous Year Questions (PYQs)

Prelims

Q. Atal Innovation Mission is set up under the (2019)

(a) Department of Science and Technology

(b) Ministry of Labour and Employment

(c) NITI Aayog

(d) Ministry of Skill Development and Entrepreneurship

Ans: (c)

Q. The Government of India has established NITI Aayog to replace the (2015)

(a) Human Rights Commission

(b) Finance Commission

(c) Law Commission

(d) Planning Commission

Ans: (d)

Q. Sustainable development is described as the development that meets the needs of the present without compromising the ability of future generations to meet their own needs. In this perspective, inherently the concept of sustainable development is intertwined with which of the following concepts? (2010)

(a) Social justice and empowerment
(b) Inclusive Growth
(c) Globalization
(d) Carrying capacity

Ans: (d)

Mains

Q. How are the principles followed by the NITI Aayog different from those followed by erstwhile Planning Commission in India? **(2018)**

Q. Access to affordable, reliable, sustainable and modern energy is the sine qua non to achieve Sustainable Development Goals (SDGs)." Comment on the progress made in India in this regard. **(2018)**

DIRECT SEEDED RICE AND ZERO TILLAGE

Context

The agricultural landscape in India is undergoing significant changes, particularly in the cultivation of rice and wheat. The introduction of innovative technologies is critical to addressing the challenges posed by climate change, labour shortages, and the need for sustainable farming practices. A recent development in this context is the formation of a joint venture between Mahyco, a prominent Indian seed company, and RiceTec, a U.S.-based agricultural biotechnology firm. This collaboration, named "Paryan," aims to promote herbicide-tolerant (HT) rice and wheat varieties suited for direct seeding and zero-tillage cultivation methods.

About herbicide-tolerance technology

1. Direct-Seeded Rice (DSR) and Zero-Tillage (ZT) Wheat:

The new method uses non-GM herbicide-tolerance technology. It allows for direct seeding of rice and zero-tillage planting of wheat.

2. Herbicide-Tolerant Varieties:

Two new rice varieties (Pusa Basmati 1979 and 1985) and two rice hybrids (Sava 134 and 127) have been developed. These varieties are resistant to the herbicide Imazethapyr, which controls weeds without harming the crops.

The Role of Imazethapyr in this new technology

The key to this technology is the herbicide Imazethapyr, which controls many weeds without needing repeated ploughing or lots of water.

The breakthrough is in breeding rice and wheat varieties with a mutated acetolactate synthase (ALS) gene.

This mutation allows the plants to tolerate Imazethapyr, so only the weeds are killed by the herbicide.

How the Technology Works

1. Rice Cultivation

Traditional method	New Method
Traditional Method of rice cultivation involves nursery raising, transplanting, and frequent flooding to control weeds.	New Method involves direct seeding of rice without the need for nurseries, puddling, or transplanting. Herbicide Imazethapyr replaces water for weed control, reducing labor and water usage.

2. Wheat Cultivation:

Traditional method	New Method
Traditional Method of wheat cultivation involves burning paddy stubble and multiple ploughings before sowing.	New Method uses zero-tillage technology, where seeds are sown directly without burning stubble or ploughing. Machines like the Super Seeder and Happy Seeder help in sowing without tillage.

Benefits of the technology

It reduces the environmental footprint by saving water and preventing pollution from stubble burning.

The herbicide-tolerant technology helps in making farming more climate-smart and sustainable.

The technology is expected to gain wider acceptance due to its environmental benefits and non-GM nature.

The new herbicide-tolerant technology for DSR and ZT wheat holds promise for more sustainable and efficient farming practices.

What is Direct Seeding of Rice (DSR)?

Transplantation Technique of Rice:

In this technique, farmers prepare nurseries where seeds are first sown.

After 25-35 days, the young seedlings are uprooted and replanted, in the main field.

This method is labour and water-intensive, it is known to maximise yields and maintain better crop health. It requires around 25-27 irrigations in total.

Direct Seeding of Rice (DRS):

There is no nursery preparation or transplantation involved in this method.

In DSR, the pre-germinated seeds are directly drilled into the field roughly 20-30 days prior to when they would have been transplanted by a tractor-powered machine.

The field is irrigated and levelled prior to the seeding process which is carried out using a seed drill or lucky seeder.

Before sowing seeds are treated by soaking in a fungicide solution.

The first irrigation is carried out 21 days after sowing.

Soil Characteristics for Successful DSR:

Soil Texture: It is more suitable for heavy or medium-to-heavy-textured soils as they have high water retention capacity due to the presence of high clay and less sand content.

Only 20% of Punjab's soil is light-textured.

Iron Content in the Soil: Soils should be rich in plant-available iron and have minimal weed pressure for optimal DSR.

Iron deficiency may require crop transplantation after a month, which negates the labour-saving benefits of DSR.

Use ferrous iron (green-coloured, non-oxidized) as a supplement if needed, instead of oxidized iron (brown-coloured).

Zero tillage

Zero tillage is the process where the crop seed will be sown through drillers without prior land preparation and disturbing the soil where previous crop stubbles are present.

Zero tillage not only reduce the cost of cultivation it also reduces the soil erosion, crop duration and irrigation requirement and weed effect which is better than tillage.

Zero Tillage (ZT) also called No Tillage or Nil Tillage.

No Till approach started from 1960s by farmers in India.

IMPLEMENTATION OF GREEN NATIONAL HIGHWAY CORRIDOR PROJECT

Context:

The Government of India and the World Bank have signed an agreement for the construction of Green National Highway Corridors Project (GNHCP) in an aggregate length of 781 km for the states of Himachal Pradesh, Rajasthan, Uttar Pradesh and Andhra Pradesh, with loan assistance of US $ 500 million against

total project cost of US $ 1288.24 million (Rs. 7,662.47 crore). The details are placed at Annexure-I.

About Green National Highway Corridors Project (GNHCP)

The project aims to show how highways can be safe and eco-friendly by using green technologies and focusing on climate resilience. It includes:

Conservation of natural resources using cement treated sub base/reclaimed asphalt pavement

Promote use of local/ marginal material such as lime, fly ash and waste plastic

Use of bio-engineering measures for slope protection like hydroseeding, shotcrete crib wall with vegetation, bamboo plantation, hedge brush layer etc.

The scheduled date of completion of the GNHCP project is by May 2026.

3 Components of GNHCP:

Green highway corridor improvement and maintenance

- Institutional capacity enhancement
- Road safety

Benefits of GNHCP:

Reduce carbon emissions and conservation of natural resources

Smooth and motorable roads with all weather connectivity

Socio-economic development as well as enhanced trade and connectivity within the region

CLEAN PLANT PROGRAM

Context:

Govt approves Rs 1,766-crore 'Clean Plant Programme' to boost horticulture sector

Horticulture sector in India

About

Horticulture is the practice of producing, utilizing, and enhancing fruits, vegetables, spices, condiments, ornamental plants, plantation crops, and medicinal and aromatic plants.

It contributes about 33% to agriculture Gross Value Added to Indian economy.

India is the second largest producer of vegetables and fruits in world after China.

What is Mission for Integrated Development of Horticulture (MIDH)?

About

MIDH is a Centrally Sponsored Scheme is being implemented w.e.f. 2014-15 for holistic

growth of the horticulture sector.

It covers fruits, vegetables, root and tuber crops, mushrooms, spices, flowers, aromatic plants, coconut, cashew, cocoa.

MIDH also provides technical advice and administrative support to State Governments/ State Horticulture Missions (SHMs) for the Saffron Mission and other horticulture related activities Rashtriya Krishi Vikas Yojana (RKVY)/NMSA.

Key Components

National Horticulture Mission (NHM) - Focuses on the development of horticulture in states and union territories.

Horticulture Mission for North East and Himalayan States (HMNEH) - Addresses the specific needs of the northeastern and Himalayan regions.

National Bamboo Mission (NBM) - Dedicated to promoting bamboo cultivation and its value chain.

Coconut Development Board (CDB) - Works

on the development of the coconut sector.

Central Institute of Horticulture (CIH): It was established at Medizipehima, Nagaland in 2006-07 for providing technical back stopping through capacity building and training of farmers and Field functionaries in the North Eastern Region.

Clean Plant Programme to boost horticulture sector

Clean Plant Programme (CPP) approved

The Union Cabinet, chaired by PM Modi, approved the CPP with an outlay of Rs 1,766 crore to revolutionize India's horticulture sector.

The programme, proposed by the Ministry of Agriculture and Farmers Welfare, aims to enhance the quality and productivity of fruit crops across the nation.

It was earlier announced in the Budget speech by finance minister in February 2023.

The CPP will address virus infections in horticultural crops, affecting both productivity and quality.

Implementation of the programme

The programme will be implemented by the National Horticulture Board in association with the Indian Council of Agricultural Research (ICAR).

Key components of the programme

establishment of nine world-class Clean Plant Centres (CPCs) across India, equipped with advanced diagnostic therapeutics and tissue culture labs; and

implementation of a robust certification system under the Seeds Act 1966.

Other features of theprogramme

CPP includes infrastructure support to large-scale nurseries for efficient multiplication of clean planting material.

The programme will prioritise affordable access to clean plant material for all farmers, regardless of their landholding size or socioeconomic status.

It will also actively engage women farmers in its planning and implementation.

Benefits

The CPP is expected to benefit farmers, nurseries, consumers, and boost exports.

It will provide farmers access to virus-free, high-quality planting material, leading to increased crop yields and improved income opportunities.

The CPP is expected to further strengthen India's position as a leading global exporter of fruits.

Horticultural exports have increased to over Rs 50,000 crore in the last ten years.

The initiative aligns with Mission LiFE and the One Health initiatives, promoting sustainable and eco-friendly agricultural practices while reducing dependence on imported planting materials.

INDIA'S PHARMA SECTOR TO REACH $130 BILLION BY 2030

Context:

Union Minister of State for Commerce and Industry, has stressed that the country's pharmaceutical sector will touch the 130 billion US dollar mark by 2030.

Pharmaceutical Sector of India

The pharmaceutical industry in India is currently valued at $50 Bn.

Major segments of industry include generic drugs, OTC medicines, bulk drugs, vaccines, contract research & manufacturing, biosimilars and biologics.

The Pharmaceutical industry in India is the

third largest in the world in terms of volume and 14th largest in terms of value.

The Pharma sector currently contributes to around 1.72% of the country's GDP.

India is the 3rd largest producer of API accounting for an 8% share of the Global API Industry.

Achievements of Pharmaceutical Sector of India:

India accounts for 60% of global vaccine production, contributing up to 70% of the WHO demand for Diphtheria, Tetanus and Pertussis (DPT) and Bacillus Calmette–Guérin (BCG) vaccines, and 90% of the WHO demand for the measles vaccine.

India supplies over 50% of Africa's requirement for generics, ~40% of generic demand in the US and ~25% of all medicine in the UK.

The cumulative FDI equity inflow in the Drugs and Pharmaceuticals industry is US$ 22.52 billion during the period 2000-2024, almost 3.4% of the total inflow received across sectors.

The nation is the largest provider of generic medicines globally, occupying a 20% share in global supply by volume, and is the leading vaccine manufacturer globally.

- India is known as the "pharmacy of the world" due to the low cost and high quality of its medicines.

Challenges for Pharmaceutical Sector of India

Intellectual Property (IP) Protection:

- India's patent laws, especially concerning compulsory licensing and Section 3(d) of the Indian Patent Act, have led to frequent disputes with multinational corporations.

Dependence on Imports:

- APIs and Key Starting Materials (KSMs) import dependence exposes the industry to vulnerabilities related to supply chain disruptions and price fluctuations.

Skilled Human Resource:

Indian pharmaceutical industry requires a highly skilled workforce to drive research and development, manage operations, and ensure quality control.

Failing the quality tests:

The country's pharma industry has largely been in denial over quality-related concerns expressed by national and international observers.

- According to a Central Drugs Standard Control Organization (CDSCO) survey in 2014-2016, about five per cent of Indian drugs, several of them manufactured by large pharma companies, failed the quality test.

Government initiatives

The Production Linked Incentive (PLI) scheme for pharmaceuticals is being implemented with a total outlay of the Rs. 15,000 crore (US$ 2.04 billion) spanning from 2020-21 to 2028-29, to boost India's manufacturing capacity, elevate investment, and diversify product offerings in the sector.

Pradhan Mantri Bhartiya Janaushadhi Pariyojana (PMBJP): quality generic medicines are made available at affordable prices to all through dedicated outlets known as Pradhan Mantri Bhartiya Janaushadhi Kendras (PMBJK).

Strengthening of Pharmaceutical Industry (SPI): The scheme is implemented for the period from FY 21-22 to FY 25-26.

- It aims to provide support to existing Pharma clusters and MSMEs across the country to improve their productivity, quality and sustainability to strengthen the existing infrastructure facilities in the Pharma MSME clusters.

Scheme for Promotion of Bulk Drug Parks: The objective is to provide world class common infrastructure facilities to units located in the parks which will help in significantly bringing

down the manufacturing cost of bulk drugs and thereby make India self-reliant.

100% Foreign Direct Investment (FDI) in the pharmaceutical sector is allowed under the ***automatic route for greenfield*** pharmaceuticals.

- 100% FDI in the pharmaceutical sector is allowed in brownfield pharmaceuticals; wherein 74% is allowed under the automatic route and thereafter through the government approval route.

Way Ahead

- The pharmaceutical industry in India is a significant part of the nation's foreign trade and offers lucrative potential for investors.

- Speedy introduction of generic drugs into the market has remained in focus and is expected to benefit the Indian pharmaceutical companies.

A DECADE OF JAN DHAN YOJANA

Context:

On August 28, 2024, the Pradhan Mantri Jan Dhan Yojana (PMJDY) accomplished a decade, marking a significant milestone in financial inclusion.

About Pradhan Mantri Jan Dhan Yojana (PMJDY):

Launch date: August 28, 2014

Objective: To promote financial inclusion by providing access to financial services, including banking/savings accounts, remittance, credit, insurance, and pensions, affordably.

Significance: Forms the backbone for several government economic initiatives and facilitates ***Direct Benefit Transfers (DBTs).***

Eligibility:

- The applicant should be an ***Indian National.***

- The applicant should be aged between 18 and 59 years.

- If minors above ten years apply, they will require support from their legal guardians to administer their PMJDY account.

Jan Dhan Account:

- An individual can open an account under this scheme with any bank branch or Business Correspondent (Bank Mitr) outlet.

- Accounts opened under PMJDY can be opened with zero balance. However, if the account holder wishes to get a chequebook, he/she will have to fulfill the minimum balance criteria.

- The account holders under this scheme will be given a RuPay debit card which can be used across all ATMs for cash withdrawal.

Scheme highlights:

Zero-balance accounts: Accounts can be opened with no minimum balance requirement.

RuPay debit card: Provides a free RuPay debit card with in-built accident insurance coverage.

- Accident insurance: Up to ₹2 lakh.

- Life insurance: Up to ₹30,000 for eligible first-time account holders.

Overdraft facility:

- Up to ₹10,000 is available to one account per household, with an additional ₹5,000 loan after six months of satisfactory account activity.

Coverage focus: 66.6% of accounts are in rural and semi-urban areas, with 55.6% of account holders being women.

Banking access: 99.95% of inhabited villages have banking facilities within a 5 km radius.

Recent developments:

Account growth:

- Accounts increased from *14.72 crore in March 2015 to 53.13 crore* by August 2024.

- Deposits in PMJDY accounts surged from *₹15,670 crore (March 2015) to over ₹2.31 lakh crore (August 2024).*

Financial Year 2024-25 target: The government aims to open an additional 3 crore PMJDY accounts.

Operative accounts: Out of *173 crores CASA accounts* in the country, over *53 crores* are PMJDY accounts, with an 80% operation rate.

REFORMING INDIA'S INCOME TAX LAW

Context:

The government has announced its intent to review the Income Tax Act (1961) aiming to fundamentally resolve the contentious sections of the Act be carefully redrafted, tax structure simplified.

About

India's income tax system, governed by the **Income-tax Act of 1961**, , governing the taxation of income earned by individuals, businesses, and other entities, has long been a subject of debate for its complexity and the burden it places on both individuals and businesses.

Key Aspects to Consider

Rising Share of Personal Income Tax over Corporate Tax:

Over the years, the share of corporate tax in gross tax revenue has been on a decreasing trend, while personal income tax's share has been increasing.

As of February 2024, income tax formed 28% of the gross tax revenue—a new peak. The decline in corporate tax collections after FY19 can be attributed to the significant corporate tax cuts introduced in September 2019.

Rising Share of Indirect Tax over Direct Taxes:

The share of direct taxes (levied directly on incomes) has been decreasing, while that of indirect taxes (such as GST) has been increasing.

Direct taxes are considered "progressive" because they tax higher earners more. However, concerns arise when the burden disproportionately falls on the middle class.

Complexity and Ambiguity:

India's Income Tax Act, 1961, along with numerous amendments and circulars, creates a convoluted legal framework. Taxpayers often struggle with its complexity and ambiguity. Simplification and clarity are essential to ensure fair compliance and reduce disputes.

Tax Evasion and Black Money:

Efforts to curb tax evasion remain critical. The government has taken steps like demonetization and promoting digital payments to bring unaccounted wealth into the formal economy. However, challenges persist, and addressing black money remains a priority.

Parallel Economy and Informal Sector:

The informal sector—comprising unorganised businesses and self-employed individuals—poses challenges. Many transactions occur outside the formal tax net. Encouraging formalisation and widening the tax base are ongoing goals.

Capital Gains Tax and Investment Behavior:

The treatment of capital gains tax affects investment decisions. Balancing revenue collection with incentivizing investment is crucial.

Recent budget changes have impacted long-term capital gains tax on assets like stocks and real estate.

Reassessment Notices and Compliance:

Tax officials are increasingly scrutinising returns. The reassessment law aims to catch discrepancies and ensure compliance. However, taxpayers need clarity on the process to avoid undue stress.

Effective and Efficient Income Tax System in India

To make the tax system more efficient, equitable, and growth-oriented, various reforms have been suggested. These reforms aim to simplify tax structures, broaden the tax base, and improve compliance.

Simplification and Clarity:

The complexity of the Income Tax Act can be overwhelming for taxpayers. Simplification is essential to enhance compliance and reduce disputes.

Redrafting Contentious Sections:

The government should carefully review and redraft contentious sections of the Income Tax Act. By doing so, we can address ambiguities and reduce the scope for disputes.

Clearer Definitions:

Providing precise definitions for terms like 'income," "capital gains," and "exemptions" would minimise confusion and ensure uniform interpretation.

Rationalizing Tax Rates:

India's tax rates have evolved over time, leading to a convoluted structure. Rationalising tax rates can simplify compliance and encourage voluntary tax payments:

Progressive Taxation:

While progressive taxation is essential for equity, striking the right balance between tax rates and revenue collection is crucial. Gradual reductions in tax rates for different income slabs could incentivize compliance.

Broadening the Tax Base By Inclusion of More Taxpayers:

Despite having a large population, India's tax base remains narrow, with only a small percentage of people paying income tax. Reforms that encourage more individuals and businesses to enter the formal tax net are crucial. This could involve lowering the threshold for taxable income or incentivizing voluntary compliance through reduced penalties for past evasion.

Digital Transformation:

Leveraging technology can revolutionize tax administration:

E-filing and Digital Payments:

Encouraging e-filing and digital payment options simplifies the process for taxpayers and reduces paperwork.

Real-time Data Sharing:

Implementing real-time data sharing across departments can help detect tax frauds and improve compliance.

Dispute Resolution Mechanisms:

taxpayers and the government:

Vivad Se Vishwas Scheme:

It aims to settle direct tax disputes. It provides an opportunity for taxpayers to resolve pending appeals and avoid prolonged litigation.

Faceless Assessment and Appeals:

Expanding faceless assessment and appeals processes can enhance transparency and reduce subjectivity.

Progressive Taxation:

Reforms that ensure a more progressive tax structure, where higher earners pay a proportionately higher tax, could enhance equity in the tax system. This might involve increasing the tax rates for the highest income brackets or introducing a wealth tax.

Addressing Corporate Taxation:

Aligning corporate tax rates with global standards while ensuring that large corporations pay their fair share is another important area. This could involve closing loopholes that allow for profit shifting and tax avoidance by multinational corporations.

Combating Tax Evasion:

Strengthening measures against tax evasion through stricter enforcement and enhanced use of technology, such as data analytics and AI, could help identify non-compliance and bring more individuals into the tax fold.

Encouraging Investment and Job Creation:

Tax reforms should align with economic growth and job creation:

Startup Ecosystem:

Supporting startups by abolishing the angel tax and providing tax incentives can foster innovation and entrepreneurship.

Employment-linked Incentives:

The government's focus on employment and skilling is commendable. Incentives tied to EPFO-linked schemes can encourage job creation.

Challenges to Reform

While these reforms have the potential to significantly improve India's income tax system, they are not without challenges. Political will is crucial, as tax reforms can be unpopular among certain segments of the population. Additionally, the transition to a new system must be managed carefully to avoid disruptions.

Conclusion and Way Forward

India's income tax system is evolving, with efforts to simplify, formalise, and address legacy issues.

Reforming India's income tax law requires a holistic approach. By simplifying provisions, rationalising rates, embracing technology, and promoting fairness, we can create a tax system that benefits all stakeholders.

Balancing revenue needs, fairness, and economic growth remains a delicate task. As taxpayers, understanding our obligations and rights within this framework is essential.

A comprehensive review of the Income Tax Act leads to meaningful changes and a more taxpayer-friendly regime.

GEOGRAPHY,

ENVIRONMENT,

BIODIVERSITY AND

DISASTER MANAGEMENT

What's Inside?

CHHATTISGARH APPROVES COUNTRY'S THIRD LARGEST TIGER RESERVE

Context:

Chhattisgarh cleared a proposal to establish a new tiger reserve, the third largest in the country, due to the recent plunge in its tiger population.

About:

Tiger Reserves are designated areas aimed at protecting tiger populations and their habitats. They are divided into:

Core Area: A 'Critical Tiger Habitat' managed as an inviolate zone.

Buffer Area: Surrounding areas with lesser habitat protection.

Background:

Project Tiger: Launched in 1973 to safeguard the endangered tiger species, leading to the establishment of various tiger reserves.

Administration: Managed by the National Tiger Conservation Authority (NTCA).

Process of Notification:

Proposal: State governments submit a proposal.

Approval: NTCA provides in-principal approval and reviews detailed proposals.

Notification: State governments officially declare the area as a Tiger Reserve.

Approval: Chhattisgarh has approved the creation of the Guru Ghasidas-Tamor Pingla Tiger Reserve.

Size: The reserve spans 2,829 square kilometres, making it the third largest in India.

Largest Reserve: Nagarjunasagar Srisailam Tiger Reserve in Andhra Pradesh (3,296.31 sq km).

Second Largest: Manas Tiger Reserve in Assam (2,837.1 sq km).

Legal Context: The approval followed a directive from the Chhattisgarh High Court to finalise the reserve status.

Reserve Composition:

Guru Ghasidas National Park: Located in Koriya district.

Tamor Pingla Wildlife Sanctuary: Situated in Surajpur district.

Geography: The reserve spans Manendragarh-Chirmiri-Bharatpur, Koriya, Surajpur, and Balrampur districts.

Significance:

Historical Importance: Guru Ghasidas National Park was once the habitat of the Asiatic cheetah.

Ecological Benefits: Connects with Jharkhand and Madhya Pradesh, providing a corridor for tiger movement between Bandhavgarh and Palamau Tiger Reserves.

Economic Impact: Expected to boost eco-tourism and create employment opportunities in the core and buffer zones.

Financial Support: Additional budget from the National Project Tiger Authority will fund operations and local livelihood projects.

Declining Tiger Population:

Current Status: Chhattisgarh›s tiger population decreased from 46 in 2014 to 17 in 2022.

National Trends: A concerning decline in tiger populations has been observed in several states, including Mizoram, Nagaland, Jharkhand, Goa, Chhattisgarh, and Arunachal Pradesh.

UNDERWATER STRUCTURES IN THE INDIAN OCEAN

Context:

Names of Ashoka Seamount, Chandragupta Ridge and Kalpataru Ridge in the Indian Ocean have been approved by IHO and UNESCO's IOC.

These structures are located along Southwest Indian Ridge.

They were discovered by National Centre for Polar and Ocean Research.

Naming of Undersea Feature

Outside Territorial Sea:

Individuals and agencies can propose names for unnamed features, following IHO's 2013 guidelines "Standardization of Undersea Feature Name".

Before naming of a feature, its character, extent, and position must be identified.

Proposals are reviewed by IHO Sub-Committee on Undersea Feature Names (SCUFN).

Within Territorial Sea: National authorities naming features in their territorial sea should adhere to the same 2013 IHO guidelines.

About IHO and IOC

International Hydrographic Organization (IHO)

- Established in 1921.

- An intergovernmental body (India a member).

- Enjoys observer status at the UN.

- Recognized as competent international authority regarding hydrography and nautical charting.

Intergovernmental Oceanographic Commission (IOC)

- Established in 1961.

- Promotes international cooperation in marine sciences.

GEBCO: General Bathymetric Chart of the Oceans (GEBCO) is an IHO & IOC UNESCO joint project to collect bathymetric data and map the oceans

GEBCO -SCUFN maintains and makes available a digital gazetteer of the names, generic feature types, etc.

MEGA QUAKE ADVISORY:

Context:

After a 7.1-magnitude earthquake shook southern Japan on Thursday (August 8), the country's meteorological agency issued its first-ever "megaquake advisory".

What is Megaquake?

Earthquakes having magnitude larger than 8 are known as 'Megaquakes'.

What is the Nankai Trough?

The Nankai Trough is an underwater subduction zone (nearly 900 km long) where the Eurasian Plate collides with the Philippine Sea Plate, pushing the latter under the former and into the Earth's mantle.

This accumulates tectonic stress which can cause a megaquake — an earthquake with a magnitude larger than 8.

The trough has produced large earthquakes roughly every 100 to 150 years.

These tremors usually come in pairs, with the second often rupturing in the subsequent two years — the most recent "twin" earthquakes took place in 1944 and 1946.

What is a Richter scale?

The Richter scale is a logarithmic scale used to measure the magnitude of earthquakes.

The Richter scale is logarithmic, meaning that each whole number increase on the scale corresponds to a tenfold increase in the amplitude of seismic waves recorded by seismographs. For instance, an earthquake with a magnitude of 5.0 has seismic waves with amplitudes 10 times larger than those of a 4.0 earthquake.

The Richter scale measures the magnitude of an earthquake, which is the total energy released at the source. This differs from intensity, which describes the effects of an earthquake at specific locations, often measured by the Mercalli intensity scale.

In theory, the Richter scale has no upper limit, though the largest recorded earthquakes have magnitudes of around 9.0. However, the scale is less commonly used for very large earthquakes, as more advanced scales like the Moment Magnitude Scale (Mw) provide better accuracy for these events.

BAILEY BRIDGE

Context:

Recently, the Indian Army's Madras Engineer Group or Madras Sappers built a "Bailey bridge", which was assembled at Chooralmala, to reach Mundakkai village — one of the sites worst hit by the landslides.

About Bailey bridge:

It is a type of modular bridge, one whose parts are pre-built so that they need minimal construction work and can be assembled quickly when needed.

Origin: A US Army Engineer School manual notes that the Bailey bridge originated during wartime. Donald Coleman Bailey, an English civil engineer, invented it during World War 2 (1939-45).

How does the Bailey bridge work?

The pre-fabricated parts in a Bailey bridge include light steel panels linked through pins, which are big, screw-like objects.

These help establish the guardrails of the bridge. Through the guardrails on either side, workers place beams to form the deck or path of the bridge.

All beams were constructed such that they would lock in on the guardrails to ensure stability.

After that, the bridge can be extended, and the lightness of the parts allows it to be mobile.

No heavy installation equipment is needed. In disaster relief situations, this is ideal because parts can be transported in small trucks — something also of use during wartime.

PM-SURYA GHAR: MUFT BIJLI YOJANA

Context:

Recently, the Scheme Guidelines for implementation of 'Model Solar Village' under PM-Surya Ghar: Muft Bijli Yojana have been notified by the Ministry of New and Renewable Energy.

About Model Solar Village:

It aims to create one Model Solar Village per district across India.

Goal: With the goal of promoting solar energy adoption and enabling village communities to become self-reliant in meeting their energy needs.

Funding: A total financial outlay of ₹800 crore has been allocated for this component, providing ₹1 crore per selected Model Solar Village.

Criteria:

In order to be considered a village under the competition mode, a village must be a revenue village with a population size above 5,000 (or 2,000 for special category states).

The selection process involves a competitive mode where villages are assessed on their overall distributed renewable energy (RE) capacity installed 6 months after the declaration of the potential candidate by District Level Committee (DLC).

The winning village in each district, with the highest RE capacity, will receive a central financial assistance grant of ₹1 crore.

Implementation: The implementation of this scheme will be done by State/UT Renewable Energy Development Agency under the supervision of the District Level Committee (DLC).

Key facts about the PM-Surya Ghar: Muft Bijli Yojana

In this scheme, the central government will provide 300 units of free electricity per month to its beneficiaries by investing worth ₹75,000 crores.

Target: It aims to light up 1 crore households.

Under the scheme, Urban Local Bodies and Panchayats shall be incentivised to promote rooftop solar systems in their jurisdictions.

3 MORE WETLANDS ADDED TO INDIA

CONTEXT:

Union Environment Minister Bhupender Yadav announced three new Ramsar sites in Tamil Nadu and Madhya Pradesh earlier this month, taking the total of such sites in India to 85. The new additions are the Nanjarayan Bird Sanctuary and the Kazhuveli Bird Sanctuary in Tamil Nadu, and the Tawa Reservoir in Madhya Pradesh.

What are wetlands?

According to the convention, wetlands are defined as "areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six metres".

What are Ramsar sites?

The Ramsar Convention is an intergovernmental treaty signed in 1971 in Ramsar, Iran. It encourages the protection and conservation of wetlands worldwide by designating them as such.

NEW ADDITION TO THE LIST:

Nanjarayan Bird Sanctuary and the Kazhuveli Bird Sanctuary in Tamil Nadu

Tawa Reservoir in Madhya Pradesh.

NANJARAYAN BIRD SANCTUARY

Located in Tiruppur district of the Indian state of Tamil Nadu.

It is a large shallow wetland. Inland wetland - Permanent Fresh Water Lake.

The Sanctuary lies in the Central Asian Flyway and is an important breeding and foraging site for both resident and migratory birds.

KAZHUVELI BIRD SANCTUARY

Located in Villupuram district of the Indian state of Tamil Nadu.

The sanctuary has the brakish shallow Kaluveli lake, which is connected to the Bay of Bengal by the brackish Uppukalli creek and the Edayanthittu Estuary.

It is home to the second-largest brackish water lake in South India.

It lies in the Central Asian Flyway and hence is an important stopover site for migratory bird species

It is one of the largest waterfowl congregation sites in Tamil Nadu, and a well-known raptor roosting site for species like the Eastern Imperial Eagle, Greater Spotted Eagle, Red-necked Falcon and several harriers.

The Grey-tailed Tattler, a rare migratory wader, has been recorded only here and in Pulicat across the country.

TAWA RESERVOIR

Tawa Reservoir is a reservoir on the Tawa River in central India. It is located in Itarsi of Narmadapuram District of Madhya Pradesh.

Tawa Reservoir forms the western boundary of Satpura National Park and Bori Wildlife Sanctuary.

The Site is a man-made wetland which was created primarily for irrigation through the construction of Tawa Dam.

It is located within Satpura Tiger Reserve, in the Central Indian Highlands.

it is an important fish spawning ground, hosting indigenous species such as the vulnerable common carp (Cyprinus carpio) and shark catfish (Wallago attu).

In addition, the Site harbours the state fish of Madhya Pradesh, the tor mahseer (Tor tor), which is revered as a "god fish" by local communities.

The Site and its environs also provide habitat to the Indian giant squirrel (Ratufa indica), which is endemic to India.

NANO UREA AND NANO DAP

CONTEXT:

A two-year field experiment on the efficacy of nano diammonium phosphate (DAP) by scientists from the Punjab Agricultural University (PAU) has found a substantial decrease in wheat yields compared to conventional nitrogen fertiliser application.

FEATURES	UREA	DAP
COMPOSITION	Urea is an organic compound made up of carbon, hydrogen, nitrogen, and oxygen. It has an NPK (nitrogen-phosphorus-potassium) ratio of 46-0-0.	Diammonium phosphate (DAP) is a fertilizer made from the macro-nutrients nitrogen and phosphate. DAP Contains 18% Nitrogen and 46% Phosphorus
MAJOR USE	Urea is a nitrogen fertilizer that helps plants grow and look lush, and aids in photosynthesis.	Di-Ammonium Phosphate (DAP) is a type of fertilizer that helps in boosting a plant's overall growth and development.
USAGE IN INDIA	The most popular nitrogenous fertilizer in India, and the most produced, consumed, and imported fertilizer.	DAP is the second-most consumed fertiliser in the country after urea.

APPLICATION	Applied to the soil and let it absorbed by the roots.	Applied to the soil and let it absorbed by the roots.
DISADVANTAGES	• Soil degradation • Soil fertility loss • Pollution • Greenhouse gas emissions	• Expensive • Environmental impact • Seedling and root damage

NANO FERTILIZERS:

Nano urea has a particle size of about 20–50 nanometers and is bioavailable to plants. It can be applied to leaves to help plants absorb nitrogen more efficiently, which can lead to better growth, grain production, and fruit quality.

Nano DAP has a particle size of less than 100 nanometers and contains nitrogen and phosphorus. It can help plants develop stronger root systems, resist disease, and grow overall healthier.

Nano DAP is the second product from the nano stable after nano urea. Indian Farmers Fertiliser Cooperative Limited (IFFCO) launched liquid 'Nano Urea' in 2021.

ADVANTAGES OF NANO FERTILIZERS:

Sustainable agriculture. Sprayed in the leaves of the plants at the younger stage.

Optimized crop yields and optimal usage of fertilizers.

Nano-fertilizer offers a slow and gradual release of nutrients for a more extended period. Reduces carbon foot print.

Nano-fertilizers also reduce the crop cycle period and increase crop yield.

AROGYA MAITRI DISASTER MANAGEMENT CUBE

CONTEXT:

The Indian Air Force (IAF) conducted trials of airdropping its Arogya Maitri Disaster Management Cube — a state-of the-art indigenous mobile hospital — in Agra.

ABOUT:

The cube is part of the Army's broader initiative, BHISHM (Bharat Health Initiative for Sahyog, Hita and Maitri).

The cube is designed to be deployed within 12 minutes, ensuring swift response during emergencies.

It is equipped to treat up to 200 casualties, providing comprehensive medical care in disaster-stricken areas.

The cube includes a tablet with the BHISHM software system, enabling quick item location, usage monitoring, and readiness for future deployments.

It incorporates Artificial Intelligence (AI) and data analytics for real-time monitoring, effective coordination, and efficient management of medical services in the field.

DELIVERING AGENTS:

The IAF utilised its advanced tactical transport aircraft C-130J Super Hercules to airlift and precisely para-drop the cube.

The Indian Army's Para Brigade, known for its operational acumen and agility, played an instrumental role in the successful deployment of the trauma care cube.

Significance:

The cube's ability to bridge the critical time gap between primary and definitive care can potentially save numerous lives during the golden hour of emergencies.

MERCURY BOMB IN ARCTIC

CONTEXT:

Arctic has kept centuries of mercury deposits locked away, but global warming is threatening to release that stock into the environment.

The Yukon River, winding its way westward across Alaska toward the Bering Sea, carves through Arctic permafrost along its banks, carrying sediment downstream.

BACKGROUND:

In the Arctic, plants absorb mercury, which eventually becomes part of the soil as the plants die and decay.

Over thousands of years, this mercury-laden soil freezes into permafrost, where mercury concentrations build up.

As climate change accelerates the thawing of permafrost, more of this mercury is being released into the environment.

MERCURY:

Mercury is a chemical element; it has symbol Hg and atomic number 80.

Mercury occurs in deposits throughout the world mostly as cinnabar (mercuric sulfide).

MERCURY POLLUTION:

Exposure to mercury and mercury-containing organic compounds is toxic to the nervous system, immune system and kidneys of humans and other animals.

Mercury poisoning can result from exposure to water-soluble forms of mercury (such as mercuric chloride or methylmercury) either directly or through mechanisms of biomagnification.

USES:

It remains in use in scientific research applications and in amalgam for dental restoration in some locales.

It is also used in fluorescent lighting.

Electricity passed through mercury vapor in a fluorescent lamp produces short-wave ultraviolet light, which then causes the phosphor in the tube to fluoresce, making visible light.

Mercury(I) chloride (also known as calomel or mercurous chloride) has been used in traditional medicine as a diuretic, topical disinfectant, and laxative.

INDIA TO ROLL OUT NEW TREATMENT REGIMEN FOR DRUG-RESISTANT TB

Context

Context: India is getting ready to roll out the BPaL (bedaquiline, pretomanid, and linezolid) regimen for all multidrug resistant tuberculosis (MDR-TB) and extensively drug-resistant tuberculosis (XDR-TB) patients. The training for this new exercise is scheduled to begin in August 2024.

Tuberculosis (TB)

TB is an airborne communicable disease caused by the bacteria Mycobacterium tuberculosis.

Typically, the bacteria grow in the body where oxygen and blood are in high amounts.

As a result, 80% of TB cases are pulmonary which infect the lungs and 20% of cases are extra-pulmonary which infect the brain, uterus, stomach, mouth, kidneys and bones.

Mode of transmission: Airborne- through coughing, sneezing or spitting.

High-risk groups: People with weak immunity like those infected with HIV, Under-nutrition, Diabetes, Smoking and Alcohol consumption.

Types of Drug-Resistant TB: There are two main categories:

1. Multidrug-Resistant Tuberculosis (MDR-TB):Resistant to at least isoniazid and rifampicin (the two most powerful first-line drugs). Treatment is longer, more expensive, and has more side effects.

2. Extensively Drug-Resistant Tuberculosis (XDR-TB):A severe form of MDR-TB. Resistant to isoniazid, rifampicin, at least one fluoroquinolone, and at least one of three injectable second-line drugs.Extremely difficult to treat and has a high mortality rate.

Present Status of TB:

According to World Health Organisation (WHO) estimates, every day 3500 people worldwide lose their lives to tuberculosis (TB), and around 30,000 people become infected with TB bacilli.

TB incidence in India: India tops the list of 20 TB high-burden countries in the world. India accounts for 27% of the total TB patients in the world.

Target for TB elimination:

Ending the TB epidemic by 2030 is among the health targets of the United Nations' Sustainable Development Goals.

India aims to eliminate TB in the country by 2025.

WHO has acknowledged India's success on two major fronts:

In reducing TB incidence by 16% from 2015 to 2022 (close to double the pace at which global TB incidence is declining).

In reducing TB mortality by 18% during the same period, keeping in line with the global trend.

Significance of introducing BPaL:

Bring down treatment duration: Patients with MDR-TB and XDR-TB to be treated with BPaL, which will bring down treatment time to around six months from the earlier duration of 18 to 24 months.

Convenience in drug administration: Furthermore, the older all-oral drug regimen included nearly 14 different anti-TB drugs for a patient to take every day. With BPaL, it is likely to come down to just three tablets daily.

Improve treatment outcomes & help thousands of patients.

Key Facts:

In 2022, the World Health Organisation recommended the six-month regimens BPaL (bedaquiline + pretomanid + linezolid) and BPaLM (BPaL + moxifloxacin) as treatment options for most forms of drug-resistant TB.

BPaL and BPaLM regimens for drug-resistant TB treatment have become more effective, shorter, less burdensome for patients, and cheaper for both health systems and patients.

INDIA'S WEATHER FORECASTING NEEDS AN UPGRADE

Context

The recent extreme weather events have put the focus back on the country's weather prediction capabilities and ways to improve them.

Weather Prediction in India

India, at present, depends on **satellite data and computer models** for weather prediction. The **Indian Meteorological Department (IMD)** uses the *INSAT* series of satellites and supercomputers.

In India three satellites, **INSAT-3D, INSAT-3DR and INSAT-3DS** are used mainly for meteorological observations.

Forecasters use satellite data around **cloud motion, cloud top temperature, and water vapor content** that help in rainfall estimation, weather forecasting, and tracking cyclones.

Initiatives taken to improve the efficiency

The **'National Monsoon Mission'** was set out in **2012** to move the nation over to a system that relies more **on real-time, on-the-ground data gathering.**

The IMD is also increasingly using **Doppler radars** to improve efficiency in predictions. The number of Doppler radars has increased from **15 in 2013 to 37 in 2023.**

- Doppler radars are used to predict rainfall in the immediate vicinity, making predictions more timely and accurate.

The weather agency is now using **manned and automatic weather stations, aircraft, ships, weather balloons, ocean buoys and satellites** to gather information on atmospheric temperature, pressure humidity, wind speed and direction and sea surface temperatures.

- The data is then fed into a supercomputer at **the Indian Institute of Tropical Meteorology in Pune.**

The Ministry of Agriculture & Farmers Welfare have initiated the **weather information network and data system (WINDS)** under which more than 200,000 ground stations will be installed, to generate long-term, hyper-local weather data.

Challenges

Lack of weather monitoring ground stations: Currently, IMD operates around **800** automatic weather stations (AWS), **1,500** automatic rain gauges (ARG) and **37** doppler weather radars (DWR).

- This is against the total requirements of more than **3,00,000** ground stations (AWS/ARG) and around 70 DWRs.

Lack of coordination: Several Indian State governments and private companies operate a significant network of ground stations (more than 20,000), many of which are not currently used by IMD due to inaccessibility and/or reliability of the data.

Extreme Weather Events: Events, such as extreme rainfall, landslides, and cloudbursts, have become more frequent due to climate change. These events are highly localized and

erratic, making them difficult to predict with existing weather simulation models.

Outdated Prediction Models: Currently, most of the prediction software used in forecasting are based on the global forecasting system and weather research and forecasting models, both of which are not the most modern.

Forecasting weather in the tropics is more challenging than in areas that are farther from the equator, because of greater variability in weather phenomena.

Predicting large-scale systems like monsoons, cyclones, or ***heat waves is easier due to their widespread nature***. However localized events like cloudbursts and sudden, unexpected weather phenomena are much harder to forecast accurately

Need for precision: IMD currently has the ability to forecast weather events over a 12 km x 12 km area. This grid is larger than most Indian cities.

- For hyper-local forecasts there is a need for ***1 km x 1 km*** forecast.

Way Ahead

Predicting weather events with a high level of accuracy has become increasingly important in India, one of the most vulnerable nations to climate change.

There is an urgent need for an ***integrated system to fill the data gaps.*** New ground stations will have to be installed and the available data have to be shared seamlessly.

Also the focus should be on greater integration of ***artificial intelligence and machine learning (AI/ML)*** in weather forecasting to get more accurate results.

Indian Meteorological Department (IMD)

– IMD is an agency of the ***Ministry of Earth Sciences.***

– It is the principal agency responsible for meteorological observations, weather forecasting and seismology.

– It is also one of the six Regional Specialized Meteorological Centres of the ***World Meteorological Organisation (WMO).***

VULTURE COUNT 2024

Context:

World Wide Fund(WWF)-India has started a new project called "Vulture Count 2024," which will take place from September 7 to October 6, 2024. This initiative is timed to coincide with International Vulture Awareness Day. The goal is to count and evaluate the number of vultures in India, particularly focusing on species that are critically endangered. The project also aims to raise public awareness about the importance of vultures in our ecosystems.

Why are vultures important?

Vultures are very important to the environment because they act as nature's cleanup crew. They eat dead animals (carrion), which helps prevent the spread of diseases among other animals, livestock, and even humans. By doing this, they also help recycle nutrients back into the environment, keeping the ecological balance intact.

Challenges Facing Vulture Populations

Vulture populations in India have dramatically decreased due to several threats, including:

Toxic Chemicals:

Vultures often die after eating animals that have been treated with harmful non-steroidal anti-inflammatory drugs (NSAIDs), such as diclofenac.

Loss of Habitat:

As human development expands, vultures are losing the natural areas they need to survive.

Electrocution:

Vultures can get electrocuted by power lines.

Lack of Food:

The availability of food has decreased, making it harder for vultures to find enough to eat.

Human Disturbances:

Human activities often disrupt vulture habitats, making it difficult for them to thrive.

Goals of Vulture Count 2024

Monitor Vulture Populations:

Systematically track how many vultures there are to understand population trends.

Identify Critical Habitats:

Find out which areas are most important for vulture survival.

Assess Environmental Impacts:

Evaluate how the environment is affecting vulture populations.

The data collected from this initiative will help in creating better strategies for conserving vultures and spreading awareness about their importance.

Community Involvement

WWF-India is encouraging everyone, from citizen scientists and bird enthusiasts to local communities, to take part in this important project. Dipankar Ghose, a senior director at WWF-India, has highlighted the crucial role that volunteers can play in collecting data for vulture conservation.

Which Vulture Species Will Be Counted?

The count will focus on specific vulture species in India, including White-rumped vulture, Red-headed vulture, Indian vulture, Bearded vulture, Slender-billed vulture, Himalayan griffon, Eurasian griffon, Egyptian vulture and Cinereous vulture.

About WWF-India

WWF-India, established in 1969, is part of the global World Wide Fund for Nature (WWF) network.

The organization focuses on protecting wildlife, preserving habitats, and promoting sustainable development.

WWF-India runs over 100 projects across the country, with a particular focus on endangered species like the Bengal tiger and Indian rhinoceros.

The organization also works on community-based conservation, encouraging eco-friendly practices.

Through initiatives like the Green Schools program, WWF-India educates students about sustainability.

The organization collaborates with government bodies to advocate for environmental policies and supports reforestation efforts to fight climate change.

WAYANAD LANDSLIDE

Context

Recently, Wayanad of Kerala faced a devastating landslide that claimed over 250 lives. Factors such as Kerala's fragile ecosystem, extreme rainfall, and increasing population contributed to this disaster. The loss of lives and livelihoods underscores the urgency of understanding and mitigating landslide risks.

About Landslides

These are defined as the **movement of a mass of rock, debris, or earth** down a slope. These are a geological phenomenon that involves the **sudden and rapid movement of a mass of rock, soil, or debris down a slope** under the influence of gravity.

They are a **type of mass wasting**, which denotes any downward movement of soil and rock, generally **occurring in clay-rich soil.**

In India the entire Himalayan tract, hills/mountains in sub-Himalayan terrains of North-east India, Western Ghats, the Nilgiris in Tamil Nadu and Konkan areas are landslide-prone.

Causes of Landslides

Natural Causes

Heavy Rainfall:

Heavy rainfall is one of the most common triggers of landslides. It increases pore water pressure as well as the weight of soil by making it saturated.

Erosion:

Clay and vegetation present within the soil or rock act as cohesive elements and help bind particles together. By removing these cohesive elements, erosion makes an area more prone to landslides.

Earthquakes:

Intense ground shaking due to earthquakes causes instability in rocks and soils, thus triggering landslides.

Volcanic Eruptions:

Ash and debris deposited by volcanic eruptions overload slopes while the accompanied seismic activity causes instability.

Anthropogenic Causes

Deforestation:

By holding soils as well as obstructing the flow of falling debris, vegetation cover plays an important role in preventing landslides in any area. Deforestation takes away this preventive cover and increases vulnerability to landslides.

Encroachment in Vulnerable Terrains:

Of late, humans have been encroaching in landslide-prone areas such as hilly terrains. This has led to increased construction activities in these areas and increased chances of landslides.

Uncontrolled Excavation:

Unauthorized or poorly planned excavation activities, such as mining, quarrying, etc destabilise slopes and increase the chances of landslides.

Climate Change:

Climate change caused by various anthropogenic activities has led to abrupt alterations in precipitation patterns and increased frequency of extreme weather events.

Types (On The Basis of Movement)

Falls:

They refer to the type of landslide that involves the collapse of material from a cliff or steep slope, which then falls down the slope and collects near the base.

Topples:

Under this type of landslide, the falling mass undergoes forward rotation and movement around an axis or point at or near the base.

Slides:

Under this type of landslide, there is a distinct zone of weakness that separates the moving material from a more stable underlying material.

Impacts of Landslides in India

Loss of Lives and Property:

Landslides claim lives,

destroy homes, and disrupt communities. Vulnerable populations often suffer the most.

Infrastructure Damage:

Roads, bridges, and other infrastructure can be severely affected, hindering connectivity and emergency response.

Environmental Degradation:

Landslides alter landscapes, erode soil, and impact biodiversity. They also contribute to sedimentation in rivers and reservoirs.

Economic Costs:

Landslides result in direct economic losses due to damage and indirect costs related to recovery efforts.

Landslide Prone Areas in India

ISRO's National Remote Sensing Centre created a database of landslide-prone regions of India based on events during 1998 – 2022, and released the Landslide Atlas of India.

In addition to aerial images, high-resolution satellite images captured using ResourceSat-1 and 2, etc., were used to study the landslides.

As per this atlas, some of the prominent statistics regarding landslides in India are as follows:

India is among the top

five landslide-prone countries in the world.

Excluding snow-covered areas, around 12.6% of India's geographical land area is prone to landslides.
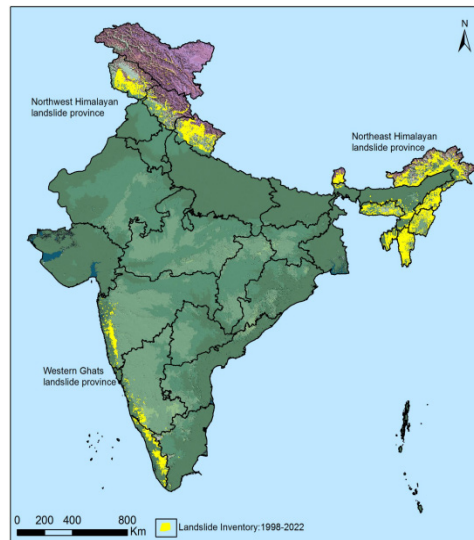
A rough break-up of reported landslides in India is as follows:

About 66.5% from the North-Western Himalayas;

About 18.8% from the

Landslide Vulnerability in India

- According to the Geological Survey of India (GSI) about 0.42 million square km of India's landmass, or about 13% of its area, spread over 15 states and four Union Territories, is prone to landslides.
- About 0.18 million square km, or 42% of this vulnerable area is in the Northeastern region, where the terrain is mostly hilly.
- This area is also prone to earth-quakes, which too, are a major trigger for landslides.

North-Eastern Himalayas

About 14.7% from the Western Ghats.

As per the Landslide Atlas of India, major landslide prone areas in India are as follows:

The Northeastern Region (comprises about 50% of the total landslide prone areas in India)

Areas of Uttarakhand, Himachal Pradesh, and Jammu & Kashmir lying along the Himalayas.

Areas of Maharashtra, Goa, Karnataka, Kerala, and Tamil Nadu lying along the Western Ghats.

The Araku region in Andhra Pradesh along the Eastern Ghats.

Vulnerable Terrain

Himalayas and Western Ghats:

These majestic mountain ranges are among the most vulnerable areas prone to landslides in India. While the Himalayas are well-known for their seismic activity and associated landslides, the Western Ghats—stretching along the western coast of India—are equally susceptible.

Interestingly, outside of the Himalayas, Kerala stands out as the most vulnerable state. Its unique topography, characterized by steep slopes and abundant rainfall, contributes to this vulnerability.

Kerala's Landscape

– Around 50% of Kerala's terrain features slopes exceeding 20 degrees, making it prone to soil erosion and landslides. The loose topsoil overlaying rocks in these areas exacerbates the risk.

– Wayanad, nestled in the Western Ghats, exemplifies this vulnerability. Its lush green hills and dense forests create an idyllic landscape but also set the stage for natural disasters.

Factors Behind Landslides

– Conditioning Factors (related to the local environment and terrain)

1. Soil Topography: The type of soil, its stability, and how it interacts with underlying rock layers play a crucial role.

2. Rocks and Geomorphology: The composition and structure of rocks influence slope stability.

3. Slope Angle: Steep slopes are more prone to landslides.

4. Vegetation Cover: Dense vegetation can stabilise slopes, while deforestation increases the risk.

Triggering Factors (These factors initiate landslides)

1. Heavy Rainfall: Excessive rain saturates the soil, reducing its cohesion and triggering slides.

2. Earthquakes: Seismic activity can destabilise slopes.

3. Human Activities: Construction, mining, and deforestation disturb the natural balance, making slopes more susceptible.

Role of Climate Change

Intensifying Climate Change: Landslides are increasing due to climate change. Extreme weather events, including heavy rainfall, are becoming more frequent.

– Rising temperatures can alter soil properties and vegetation dynamics, affecting slope stability.

Early Warning Systems:

Implementing real-time monitoring and alert systems to notify communities in landslide-prone areas.

The 'Global Status of Multi-Hazard Early Warning Systems 2023' report analyses the latest data one year into the **Early Warnings for All Initiative (EW4All)** that was formally launched at the COP27 meeting in Sharm El-Sheikh.

It reveals that 101 countries now have multi-hazard early warning systems, which is based on more complete data from the **Sendai Framework Monitor.**

Land Use Planning:

Proper zoning and regulations to prevent construction in high-risk zones.

Vegetation Restoration:

Reforestation and afforestation help stabilise slopes.

Slope Stabilization Techniques:

These include retaining walls, terracing, and bioengineering methods.

Education and Awareness:

Educating communities about landslide risks and safety measures.

Measures Taken in India

The **Disaster Management Act, of 2005** provides a comprehensive legal and institutional framework for the management of various disasters including landslides.

The National Landslide Risk Management Strategy (2019) covers all aspects of landslide disaster risk reduction and management, such as hazard mapping, monitoring, and early warning systems.

The **National Disaster Management Authority (NDMA)** has issued Guidelines on Landslide Hazard Management (2009) that outline the steps that should be taken to reduce the risk of landslides.

The **National Institute of Disaster Management (NIDM)** has been providing capacity building and other support to various national and state-level disaster management authorities.

Efforts have been made towards better prediction of weather. E.g. **Ensemble Prediction System**. This will

help predict disasters like landslides.

Suggested Measures

Gadgil Committee Recommendation

Ecologically Sensitive Zones: The report recommended classifying 64% of the Western Ghats into **Ecologically Sensitive Zones (EEZs)** called ESZ 1, ESZ 2 and ESZ 3, based on Ecologically Sensitive Area (ESA).

Western Ghats Ecology Authority: Under the Environment (Protection) Act, 1986, a professional body to manage the ecology of the region and to ensure its sustainable development was recommended by the committee.

Ban on Growing Single Commercial Crops: Crops like tea, coffee, cardamom, rubber, banana and pineapple, which have led to "fragmentation of forest, soil erosion, degradation of river ecosystems and toxic contamination of the environment" should be curtailed.

Community participation: The panel had urged the Ministry of Environment and Forests to take critical steps to involve citizens, including proactive and sympathetic implementation of the provisions of the **Community Forest Resources of the Forest Rights Act.**

On the other hand, there is a need to promote terrace farming which can help *reduce landslide risks; afforestation and construction of bunds to reduce the flow of falling materials; retaining walls* can be built on mountain slopes to stop the falling materials coming down.

As suggested by the **10th FYP,** mitigation measures should be built into the development process itself.

Traditional knowledge of the local community should be used to tackle such kinds of disasters. **Education and training** can help ensure the preparedness of the disaster management authorities as well as the local community.

Conclusion

While landslides pose a significant challenge, proactive measures can reduce their impact. As we continue to grapple with climate change and environmental degradation, understanding and addressing landslide risks remain critical.

As we grapple with these natural phenomena, it's essential to prioritise research, early warning systems, and sustainable land-use practices. By doing so, we can reduce the impact of landslides and protect vulnerable communities.

AIR POLLUTION AND ITS CONTROL

CONTEXT:

A recent report stated that India is home to 83 of the 100 most polluted cities in the world. Another report from the British Medical Journal estimated that air pollution led to the deaths of 2.1 million people in India, the second largest numbers after China.

AIR POLLUTION:

Air pollution is contamination of the indoor or outdoor environment by any chemical, physical or biological agent that modifies the natural characteristics of the atmosphere.

WHO data show that almost all of the global population (99%) breathe air that exceeds WHO guideline limits and contains high levels of pollutants, with low- and middle-income countries suffering from the highest exposures.

How severe is air pollution?

The International Energy Associates estimates that 12% of India's CO2 emissions are due to road transport, of which the vast majority of Particulate Matter (PM) 2.5 emissions are due to heavy vehicles.

According to the 2023 World Air Quality Report by IQAir, India is the third most polluted country in the

world, behind Bangladesh and Pakistan.

CAUSATIVE AGENTS:

- The Burning of Fossil Fuels.
- Agricultural Activities.
- Waste in Landfills.
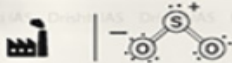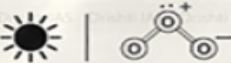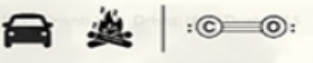- Exhaust from Factories and Industries.
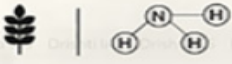- Mining Operations.
- Fishing Fleets.
- Forest Fires.
- Fine Particulates. (PM10, PM2.5 and PM1)

EFFECTS OF AIR POLLUTION:

- Increased risk of respiratory illness and cardiovascular problems.
- Increased risk of skin diseases.
- May increase the risk of cancer.
- Global warming and Acid rain.
- Ozone depletion.
- Hazards to wildlife.

Air Pollutants

Sulphur Dioxide (SO₂)

It comes from the consumption of fossil fuels (oil, coal and natural gas). Reacts with water to form acid rain.

Impact: Causes respiratory problems.

Ozone (O₃)

Secondary pollutant formed from other pollutants (NOx and VOC) under the action of the sun.

Impact: Irritation of the eye and respiratory mucous membranes, asthma attacks.

Nitrogen Dioxide (NO₂)

Emissions from road transport, industry and energy production sectors. Contributes to Ozone and PM formation.

Impact: Chronic lung disease.

Carbon Monoxide (CO)

It is a product of the incomplete combustion of carbon-containing compounds.

Impact: Fatigue, confusion, and dizziness due to inadequate oxygen delivery to the brain.

Ammonia (NH₃)

Produced by the metabolism of amino acids and other compounds which contain nitrogen.

Impact: Immediate burning of the eyes, nose, throat and respiratory tract and can result in blindness, lung damage.

Lead (Pb)

Released as a waste product from extraction of metals such as silver, platinum, and iron from their respective ores.

Impact: Anemia, weakness, and kidney and brain damage.

Particulate Matter (PM)

PM10: Inhalable particles, with diameters that are generally 10 micrometers and smaller.
PM2.5: Fine inhalable particles, with diameters that are generally 2.5 micrometers and smaller.
Source: Emitted from construction sites, unpaved roads, fields, fires.
Impact: Irregular heartbeat, aggravated asthma, decreased lung function.

STEPS TAKEN BY INDIA TO COMBAQT AIR POLLUTION:

- The Bureau of Energy Efficiency's (BEE) initiative in developing the draft Corporate Average Fuel Economy *(CAFE)* norms for cars in India.

- The commitment to shift from the Modified India Driving Cycle (MIDC) to the World Light Duty Vehicle Testing Procedure *(WLTP)*

- The government introduced a *vehicle scrappage policy* to phase out old and polluting vehicles, including heavy vehicles in 2022.

- *SAFAR* is a national initiative introduced by the Ministry of Earth Sciences (MoES) to measure the air quality of a metropolitan city, by measuring the overall pollution level and the location-specific air quality of the city.

- *NEMM* intends to allow hybrid and electric vehicles to become the first choice for the purchasers so that these vehicles can replace the conventional vehicles and thus reduce liquid fuel consumption in the country from the automobile sector.

- Department of Heavy Industry is providing subsidy on e-vehicles under Faster Adoption and Manufacture of (Hybrid &) Electric Vehicles in India *(FAME -II India)* scheme.

- Sustainable Alternative Towards Affordable Transportation *(SATAT)* has been launched as an initiative to set up Compressed Bio-Gas (CBG) production plants and make CBG available in the market for use in automotive fuels.

SCIENCE & TECHOLOGY

AI NEEDS CULTURAL POLICIES, NOT JUST REGULATION

IMPACT OF BALLAST WATER ON MARINE ECOSYSTEMS IN INDIA

Context:

The Tamil Nadu Water Resources Department (WRD) has informed the National Green Tribunal that it has requested ₹160 crore from Kamarajar Port in Ennore, Tamil Nadu, to address the removal of invasive charru mussels (Mytella strigata) along the coast. These mussels are harming marine ecosystems and obstructing fisher boat movements, impacting livelihoods.

Invasive Species and Their Threat to Ecosystems

About

Invasive species are non-native organisms that are introduced, either accidentally or intentionally, into a new environment where they do not naturally occur.

These species often spread rapidly and can cause significant harm to the local ecosystems, economies, and human health.

Invasive species can outcompete native species for resources, alter habitats, disrupt food webs, and even lead to the extinction of native species.

One of the primary ways invasive species are introduced is through human activities, such as global trade and transportation.

For example, ballast water from ships, which is used to stabilize vessels, often contains various marine organisms.

When this water is discharged in a new location, it can introduce invasive species to the area.

Case Study: Charru Mussels (Mytella strigata)

About

The Charru mussel (Mytella strigata) is an example of an invasive species that has become a significant ecological threat.

Native to South America, the charru mussel has spread to other regions, including the coast near Kamarajar Port in Ennore, Tamil Nadu, India.

The spread of this species is largely attributed to ballast water discharge from ships, which is not adequately regulated.

Threats posed

The charru mussel poses a severe threat to marine ecosystems. It reproduces quickly and forms dense colonies, which can outcompete native species for space and resources.

The mussels attach to various surfaces, including rocks, other marine organisms, and even man-made structures like boats and docks.

This can lead to the displacement of native species, changes in habitat structure, and a reduction in biodiversity.

In the Ennore region, the proliferation of charru mussels has also had economic and social impacts.

The dense colonies of mussels hinder the movement of fishing boats, affecting the livelihoods of local fishermen.

What is Ballast water?

Ships require a certain level of immersion in the sea for stability. To maintain this, when cargo is discharged and the ship rises in the water, sea water, known as ballast water, is taken into tanks onboard.

Conversely, when cargo is loaded and the ship sinks lower in the water, the ballast water is pumped out.

Laws regulating movement of ballast water

Background

Traditionally, there were no restrictions on the intake and discharge of ballast water at various locations, including ports and along coasts.

However, since ballast water can carry invasive species that harm ecosystems in other countries, the global shipping industry has moved to regulate ballast water discharge.

In India, scientists have recorded nearly 30 invasive species coming from ship ballast water.

Among the most harmful in recent times is the charru mussel, Mytella Rigata.

In the Pulicat lake in Tamil Nadu, as in Ashtamudi lake in Kerala, this mussel has replaced almost all other species.

Its survival rate and egg production is very high. Though of marine origin, it can survive even in fresh water.

Global regulations

The Ballast Water Management (BWM) Convention, enforced by the International Maritime Organization (IMO) since 2017, aims to prevent the spread of harmful aquatic organisms and pathogens through ships› ballast water.

Ships must now manage their ballast water to remove or neutralize these organisms before discharge in new locations.

Newly built ships with ballast water management systems treat the water with chemicals to eliminate biological organisms.

Older ships without such systems are required to exchange ballast water taken in at ports with neutral ocean water during their journey.

Countries like Australia and New Zealand are particularly strict in enforcing these regulations to protect their marine ecosystems.

Australia, which frequently handles ballast water due to its role as a major raw material supplier, conducts rigorous checks on ships, especially near sensitive areas like the Great Barrier Reef, to prevent ecological damage.

Situation in India

As of July 2024, 97 countries have signed the Ballast Water Management (BWM) Convention of the International Maritime Organization (IMO), but India is not among them.

Consequently, ships docking at Indian ports are not obligated to follow the BWM Convention.

While Indian ports enforce other rules, such as those related to oil discharge, ballast water remains unchecked.

Way forward for India

Maritime law experts note that ports are facilitators and cannot be held liable unless a law is in place.

If there is any evidence that a vessel has pumped out the ballast water that led to the invasive species, then the vessel owner can be held liable if a law is in force.

Hence, India must join the BWM Convention to address this gap.

FSSAI'S PROJECT TO TACKLE MICROPLASTICS IN FOOD

CONTEXT:

Food regulator Food Safety and Standards Authority of India (FSSAI) has launched a project to assess microplastic contamination in food products and develop methods for its detection.

BACKGROUND:

FSSAI pointed out that the Food and Agriculture Organization (FAO), in its recent report, has highlighted the presence of microplastics in common food items like sugar and salt.

Primary objectives of the project:

To develop standard protocols for micro/nano-plastic analysis,

To conduct intra- and inter-laboratory comparisons,

To generate critical data on microplastic exposure levels among consumers

MICROPLASTICS:

Most plastics in the ocean break up into very small particles. These small plastic bits are called "microplastics".

Microplastics are fragments of any type of plastic less than 5 mm (0.20 in) in length.

They cause pollution by entering natural ecosystems from a variety of sources, including cosmetics, clothing, food packaging, and industrial processes.

EFFECTS OF MICROPLASTICS:

Microplastics are among the biggest reasons for coral bleaching.

Their harmful effect has been discovered even at embryonic and larval stages.

As marine organisms consume microplastics, these pollutants can be transferred and magnified through the food chain.

MONKEY POX

CONTEXT:

The World Health Organisation (WHO) on August 14, 2024, declared the m-pox outbreak as a "global health emergency". The outbreak first started in 2022. The WHO decided to change the name of monkeypox to mpox in November of that year following racist insinuations towards some communities.

DESCRIPTION:

The monkeypox virus is an orthopoxvirus, which is a genus of viruses that also includes the variola virus, which causes smallpox.

Monkeypox is a zoonosis, a disease that is transmitted from infected animals to humans.

According to the WHO, cases occur close to tropical rainforests inhabited by animals that carry the virus.

Monkeypox virus infection has been detected

Symptoms of MPOX (Monkeypox)

The symptoms of mpox are significantly discussed including the common symptoms and symptoms related to the characteristics of rashes in mpox as mentioned below:

- Fever
- Rashes
- Enlarged lymph nodes
- Chills/ tremors
- Headache
- Muscle pain
- Backache
- Fatigue
- Joints pain

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in squirrels, Gambian poached rats, dormice, and some species of monkeys.

CAUSATIVE AGENT:

It is an enveloped double-stranded DNA virus of the Orthopoxvirus genus in the Poxviridae family, which includes variola, cowpox, vaccinia and other viruses.

The natural reservoir of the virus is unknown, but various small mammals such as squirrels and monkeys are susceptible.

DIAGNOSIS:

The test for mpox is detection of viral DNA by polymerase chain reaction (PCR).

BAOBABS: AFRICA'S UNIQUE TREES DEFY CLIMATE CHALLENGES

CONTEXT:

Baobabs reach extraordinarily old ages. Some have been found to be thousands of years old. During these life spans, elder baobabs have survived erratic climate conditions.

BAOBABS:

Adansonia is a genus made up of eight species of medium-to-large deciduous trees known as baobabs.

They are placed in the Malvaceae family, subfamily Bombacoideae. They are native to Madagascar, mainland Africa, and Australia.

Baobabs are originally from Africa, where they occur in 32 countries.

Adult tree mortality is negligible, except for where elephants are found. However, where there are no elephants, adult baobab trees have a very high survival rate.

These animals were responsible for the dramatic decline and almost extinction of baobabs in Tsavo East National Park (Kenya) in the 1970s.

RESILIENCE:

As global temperatures continue to rise, millions of life-forms around the globe are under threat.

Plants and animals differ in their ability to cope with variable climate conditions. Many are sensitive to the slightest change and thus may be the first to die.

In contrast, baobabs are well adapted to changes in temperature and rainfall, as can be seen by their wide geographic distribution and extreme longevity.

THREATS:

Baobabs are vulnerable to too much water in the dry season (winter) when leafless, as leaves act as a pump for water that comes from the roots.

Without leaves, baobabs have no way of getting rid of excess water and develop root and stem rot, leading to collapse or death.

This may be why baobabs in high rainfall areas do not achieve the same longevity as those in drier areas.

INDIA SELECTS 2 CREW MEMBERS FOR AXIOM-4 MISSION TO ISS

Context:

Shubhanshu Shukla and Prasanth Balakrishnan Nair, Group Captains in the IAF, will train in U.S.; experience gained during the mission will be beneficial for human space programme,

says ISRO.

More on News:

A National Mission Assignment Board has recommended two Gaganyatris (astronauts)

as prime and backup Mission Pilot for this mission.

Group Captain Shukla will be the prime mission pilot and Group Captain Nair will be the back up.

The Axiom-4 mission is the fourth private astronaut mission to the International Space Station.

ISRO added that the assigned crew members will be finally approved to fly to the International Space Station by the Multilateral Crew Operations Panel (MCOP).

Axiom-4 Mission:

NASA and Axiom Space, an american privately funded space infrastructure developer signed an order for the fourth private astronaut mission to the ISS, aiming to launch in August 2024 from Kennedy Space Center in Florida.

The mission aims to dock with the ISS for a fourteen-day duration.

Indian astronauts will receive training from NASA, international partners, and SpaceX, focusing on spacecraft systems and emergency preparedness, as part of India-US space cooperation goals.

International Space Station (ISS):

The ISS is a large, permanently crewed laboratory that orbits Earth, 400 kilometres above its surface. It is home to astronauts and cosmonauts,and serves as a unique science laboratory.

Its research is expected to lead to advancements in many areas, including medicine, technology, science, and understanding the Earth and universe.

It's a collaboration between15 countries and five space agencies namely NASA (United States), Roscosmos (Russia), ESA (European Space Agency), JAXA (Japan Aerospace Exploration Agency), and CSA (Canadian Space Agency).

An international crew of seven people live and work while travelling at a speed of 66 km/sec, orbiting Earth about every 90 minutes. In 24 hours, the space station makes 16 orbits of Earth, travelling through 16 sunrises and sunsets.

Peggy Whitson set the US record for spending the most total time living and working in space for 665 days.

The first parts of the ISS were sent and assembled in orbit in 1998. Since the year 2000, the ISS has had crews living continuously on board.

NO CLINICAL TRIAL FOR DRUGS APPROVED IN SELECT NATIONS

Context:

The Union government has authorized the exemption of local clinical trials for approval of new drugs under Rule 101 of the New Drugs and Clinical Trial Rules, 2019.

Highlights

Under the Rule 101 of the New Drugs and Clinical Trial Rules, 2019, the CDSCO, with Union government approval, can issue orders specifying the name of the countries for considering waiver of local clinical trials for approval of new drugs.

The government has decided to waive the requirement for clinical trials in India if the drugs are approved in the U.S., the U.K., Japan, Australia, Canada, or the European Union.

A set of five categories for new drugs has been specified that will be considered for waiver in the Indian market. They include:

Drugs for rare diseases: These often lack sufficient patient populations for local trials.

Gene and cellular therapy products: Cutting-

edge treatments that require speedy approval.

New drugs for pandemic situations: To address urgent public health crises.

New drugs for special defence purposes: For military personnel.

Drugs with significant therapeutic advancements: To provide patients with better treatment options faster.

Significance:

Enhanced drug accessibility for patients and for research.

Drugs manufactured outside India will be more accessible and affordable in the local market.

Address the critical and unmet medical needs and accelerate access to innovative therapies to the patients in India.

By aligning with approvals from established regulatory bodies in other countries, India is moving towards global harmonization in drug approval processes.

Central Drugs Standard Control Organisation (CDSCO):

The Central Drugs Standard Control Organisation (CDSCO) is the Central Drug Authority in India.

CDSCO is responsible for many functions under the Drugs and Cosmetics Act, including:

Approving new drugs and clinical trials

Setting standards for drugs

Controlling the quality of imported drugs

Coordinating the activities of state drug control organisations

Granting licences for certain specialised categories of critical drugs, such as blood and blood products, IV fluids, vaccines etc.

ISRO FINALIZES DESIGN OF SKULL FOR THE HUMANOID ON GAGANYAAN MISSION

Context:

ISRO's uncrewed Gaganyaan mission in 2025 will feature a female half-humanoid named Vyomitra. Vyomitra's skull design was finalized recently by ISRO's Inertial Systems Unit at the Vikram Sarabhai Space Center in Thiruvananthapuram, Kerala.

About Gaganyaan:

Gaganyaan project envisages demonstration of human spaceflight capability by launching crew of 3 members to an orbit of 400 km for a 3 days mission and bring them back safely to earth, by landing in Indian sea waters.

Gaganyaan Mission Objectives:

The Gaganyaan Mission is an ambitious and co-ordinated project of ISRO in collaboration with other agencies, such as various research labs, Indian academia, and industries, with the following objectives:

To undertake human space flights: Its immediate aim is to demonstrate indigenous capability to undertake human space flights.

Space exploration: In the long run, it will lay the foundation for a sustained Indian human space exploration programme.

Different Phases of Gaganyaan Mission:

The project is accomplished through an optimal strategy by considering in house
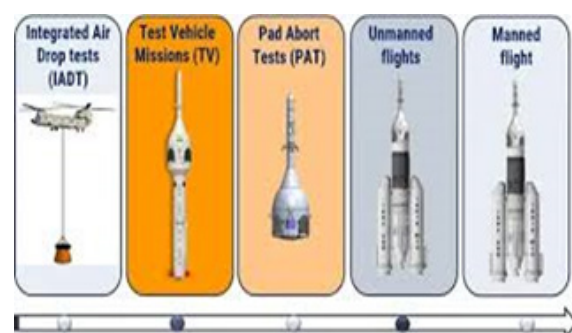
expertise, experience of Indian industry, intellectual capabilities of Indian academia & research institutions along with cutting edge technologies available with international agencies.

The pre-requisites for Gaganyaan mission include development of many critical technologies including human rated launch vehicle for carrying crew safely to space, Life Support System to provide an earth like environment to crew in space, crew emergency escape provision and evolving crew management aspects for training, recovery and rehabilitation of crew.

Various precursor missions are planned for demonstrating the Technology Preparedness Levels before carrying out the actual Human Space Flight mission. These demonstrator missions include Integrated Air Drop Test (IADT), Pad Abort Test (PAT) and Test Vehicle (TV) flights. Safety and reliability of all systems will be proven in unmanned missions preceding manned mission.

Technologies Required for ISRO's Gaganyaan Mission:

Human rated LVM3 - HLVM3:

LVM3 rocket - The well proven and reliable heavy lift launcher of ISRO, is identified as the launch vehicle for Gaganyaan mission. It consists of solid stage, liquid stage and cryogenic stage. All systems in LVM3 launch vehicle are re-configured to meet human rating requirements and christened Human Rated LVM3. HLVM3 will be capable of launching the Orbital Module to an intended Low Earth Orbit of 400 km.

Crew Escape System (CES)

HLVM3 consists of Crew Escape System (CES) powered by a set of quick acting, high burn rate solid motors which ensures that Crew

Module along with crew is taken to a safe distance in case of any emergency either at launch pad or during ascent phase.

Orbital Module:

Orbital Module (OM) that will be Orbiting Earth comprises of Crew Module (CM) and Service Module (SM). OM is equipped with state-of-the-art avionics systems with adequate redundancy considering human safety.

Crew Module (CM)

CM is the habitable space with Earth like environment in space for the crew. It is of double walled construction consisting of pressurized metallic Inner Structure and unpressurised External Structure with

Thermal Protection System (TPS). It houses the crew interfaces, human centric products, life support system, avionics and deceleration systems. It is also designed for re-entry to ensure safety of the crew during descent till touchdown.

Service Module (SM)

SM will be used for providing necessary support to CM while in orbit. It is an unpressurized structure containing thermal system, propulsion system, power systems, avionics systems and deployment mechanisms.

CABINET APPROVES THE DEPARTMENT OF SCIENCE AND TECHNOLOGY SCHEME NAMELY 'VIGYAN DHARA'

Context:

The Union Cabinet, chaired by the Prime Minister Shri Narendra Modi, today approved continuation of the three umbrella schemes, merged into a unified central sector scheme namely 'Vigyan Dhara' of Department of Science and Technology (DST).

About 'Vigyan Dhara' Scheme:

The scheme has three broad components:

I. Science and Technology (S&T) Institutional and Human Capacity Building,

II. Research and Development and

III. Innovation, Technology Development and Deployment.

The proposed outlay for the implementation of the unified scheme 'Vigyan Dhara' is Rs.10,579.84 crore during the 15th finance Commission period from 2021-22 to 2025-26.

The merger of the schemes into a single scheme would enhance efficiency in fund utilization and establish synchronization among the sub-schemes/programs.

The primary objective of the 'Vigyan Dhara' scheme is to promote S&T capacity building as well as research, innovation and technology development towards strengthening the Science, Technology and Innovation ecosystem in the country.

Implementation of the scheme will strengthen the S&T infrastructure of the country by fostering well-equipped R&D labs in the Academic Institutions.

The scheme endeavours to promote research in areas such as basic research with access to the international mega facilities, translational research in sustainable energy, water, etc. and collaborative research through international bilateral and multilateral cooperation.

It will also contribute to building critical human resource pool to strengthen the science and technology landscape and expand the R&D base of the country towards improving the Full-Time Equivalent (FTE) researcher count.

Focused interventions will be taken up to enhance the participation of women in the field of Science and Technology (S&T) with the ultimate goal of bringing gender parity in Science, Technology and Innovation (STI).

The scheme would reinforce the efforts of the government towards promoting innovations at all levels, starting from school level to higher education, and for the industries and startups through targeted interventions. Significant support will be extended to increase collaboration between academia, Government, and also with industries.

All the programs proposed under the 'Vigyan Dhara' scheme would be aligned with the 5-year goals of DST towards realising the vision of Viksit Bharat 2047.

The research and development component of the scheme will be aligned in line with the Anusandhan National Research Foundation (ANRF). Implementation of the scheme would follow the globally prevailing yardsticks while in alignment with the national priorities.

Background:

Department of Science & Technology (DST) acts as the nodal department for organising, coordinating and promoting S&T activities in the country.

Three central sector umbrella schemes were being implemented by DST towards promoting

Science, Technology and Innovation (STI) in the country viz. (i) Science and Technology (S&T) Institutional and Human Capacity Building, (ii) Research and Development and (iii) Innovation, Technology Development and Deployment.

These three schemes have been merged into the unified scheme 'Vigyan Dhara'.

In addition, the thrust on rural health programmes, lifesaving drugs and preventive vaccines also augurs well for the pharmaceutical companies.

AI NEEDS CULTURAL POLICIES, NOT JUST REGULATION

Context:

Only by providing fair and broad access to data can we unlock AI's full potential and ensure its benefits are shared equitably.

Present Scenario of 'Data Race vs. Ethics'

Data Demand vs. Quality:

The race for data has intensified as AI systems, particularly **Large Language Models (LLMs),** require vast amounts of *high-quality data for training.*

However, there is a growing concern that this demand may compromise *ethical standards, leading to the use of pirated or low-quality datasets*, such as the controversial 'Books3' collection of pirated texts.

What are Large Language Models (LLMs)?

Large Language Models (LLMs) are advanced AI systems that can understand and generate human-like text by learning from vast amounts of data, enabling a wide range of language-related applications.

Feedback Loops and Bias Amplification:

The reliance on existing datasets can create feedback loops that *exacerbate biases present in the data.*

As AI models are trained on flawed datasets, they may *perpetuate and amplify these biases, resulting in skewed outputs* that reflect an unbalanced and often Anglophone-centric worldview.

Ethical Considerations:

The urgency to acquire data can *overshadow ethical considerations*. This *raises questions about the fairness and accountability of AI systems*, as they may be built on datasets that do not represent the diversity of human knowledge and culture.

Challenges towards the Sources

Lack of Primary Sources:

Current LLMs are *primarily trained on secondary sources*, which often *lack the depth and richness* of primary cultural artefacts.

Important primary sources, such as *archival documents and oral traditions,* are frequently overlooked, limiting the diversity of data available for AI training.

Underutilization of Cultural Heritage:

Many repositories of cultural heritage, such as *state archives, remain untapped for AI training.*

These archives contain vast amounts of *linguistic and cultural data* that could enhance AI's understanding of humanity's diverse history and knowledge.

Digital Divide:

The digitization of cultural heritage is often deprioritized, l*eading to a lack of access to valuable data* that could benefit AI development.

This gap in data availability disproportionately *affects smaller companies and startups,* hindering innovation and competition with larger tech firms.

Case Studies from Italy and Canada

Italy's Digital Library Initiative:

Italy allocated €500 million from its *'Next Generation EU'* package to develop a *'Digital Library'* project aimed at making its rich cultural heritage accessible as open data. However, this initiative has *faced setbacks and deprioritization,* highlighting the *challenges of sustaining investment in cultural digitization.*

Canada's Official Languages Act:

This policy, once criticized for *being wasteful, ultimately*

produced one of the most valuable datasets for training translation software.

Conclusion:

There is a need to implement robust ethical guidelines and standards for data collection and usage in AI training. These standards should ensure that datasets are sourced legally, represent diverse cultures and perspectives, and minimize biases. Encourage collaborations between tech companies, governments, and cultural institutions to develop and adhere to these guidelines.

SECURITY

ENFORCEMENT DIRECTORATE (ED) AND PREVENTION OF MONEY LAUNDERING ACT, 2002 (PMLA)

Context:

The Enforcement Directorate carried out search operations in the bank loan fraud case at various locations in in Mumbai, Karjat, Baramati and Pune under the provisions of the Prevention of Money Laundering Act, 2002.

What is the Directorate of Enforcement (ED)?

The Directorate of Enforcement (ED) is a multi-disciplinary organization mandated with investigation of offences of money laundering and violations of foreign exchange laws.

It functions under the Department of Revenue of the Ministry of Finance.

The origin of this Directorate goes back to 1st May, 1956, when an 'Enforcement Unit' was formed in the Department of Economic Affairs for handling Exchange Control Laws violations under Foreign Exchange Regulation Act (FERA), 1947.

It was headquartered in Delhi, headed by a Legal Service Officer as the Director of Enforcement.

It had two branches – at Bombay and Calcutta.

In the year 1957, this Unit was renamed as 'Enforcement Directorate', and another branch was opened at Madras (now Chennai).

In 1960, the administrative control of the Directorate was transferred from the Department of Economic Affairs to the Department of Revenue.

With the passage of time, FERA 1947 was repealed and replaced by FERA, 1973.

With the onset of the process of economic liberalisation, FERA, 1973, which was a regulatory law, was repealed and in its place, a new law viz. the Foreign Exchange Management Act, 1999 (FEMA) came into operation w.e.f. 1st June 2000.

Further, in tune with the International Anti Money Laundering regime, the Prevention of Money Laundering Act, 2002 (PMLA) was enacted and ED was entrusted with its enforcement w.e.f. 1st July 2005.

What is the Structure of ED?

Hierarchy: The Directorate of Enforcement, with its headquarters at New Delhi, is headed by the Director of Enforcement.

There are five regional offices at Mumbai, Chennai, Chandigarh, Kolkata and Delhi headed by Special Directors of Enforcement.

The Directorate has 10 Zonal offices each of which is headed by a Deputy Director and 11 sub Zonal Offices each of which is headed by an Assistant Director.

Recruitment: Recruitment of the officers is done directly and by drawing officers from other investigation agencies.

It comprises officers of IRS (Indian Revenue Services), IPS (Indian Police Services) and IAS (Indian Administrative Services) such as Income Tax officer, Excise officer, Customs officer, and police.

Tenure: In November 2021, the President of India promulgated two ordinances allowing the Centre to extend the tenures of the directors of the Central Bureau of Investigation (CBI) and the Enforcement Directorate from two years to up to five years.

2021 Amendment:

It requires High-Level Committees to recommend the officers for service extensions.

A five-member panel composed of the Central

Vigilance Commissioner and Vigilance Commissioners had to recommend if an ED Director was worthy of an extension in service.

In case of the CBI Director, a High-Level Committee of the Prime Minister, Opposition Leader and the Chief Justice of India had to recommend.

The Delhi Special Police Establishment (DSPE) Act, 1946 (for ED) and the Central Vigilance Commission (CVC) Act, 2003 (for CV Commissioners) have been amended to give the government the power to keep the two chiefs in their posts for one year after they have completed their two-year terms.

The chiefs of the Central agencies currently have a fixed two-year tenure, but can now be given three annual extensions.

However, no further extension can be granted after the completion of a period of five years in total including the period mentioned in the initial appointment.

In July 2023, The SC upheld statutory amendments which facilitate the tenures of Directors of the Central Bureau of Investigation and the ED to be stretched "piecemeal" but held illegal extension given to the outgoing ED Chief.

What are the Statutory Functions of ED?

The statutory functions of the Directorate include enforcement of following Acts:

COFEPOSA: Under the Conservation of Foreign Exchange and Prevention of Smuggling Activities Act, 1974 (COFEPOSA), this Directorate is empowered to sponsor cases of preventive detention with regard to contraventions of FEMA.

Foreign Exchange Management Act, 1999 (FEMA): It is a civil law enacted to consolidate and amend the laws relating to facilitate external trade and payments and to promote the orderly development and maintenance of foreign exchange market in India.

ED has been given the responsibility to conduct investigation into suspected contraventions of foreign exchange laws and regulations, to adjudicate and impose penalties on those adjudged to have contravened the law.

Prevention of Money Laundering Act, 2002 (PMLA): Following the recommendations of the Financial Action Task Force (FATF) India enacted PMLA.

The ED has been entrusted with the responsibility of executing the provisions of PMLA by conducting investigation to trace the assets derived from proceeds of crime, to provisionally attach the property and to ensure prosecution of the offenders and confiscation of the property by the Special court.

Fugitive Economic Offenders Act, 2018 (FEOA): Lately, with the increase in the number of cases relating to economic offenders taking shelter in foreign countries, the Government of India introduced the Fugitive Economic Offenders Act, 2018 (FEOA) and ED is entrusted with its enforcement.

This law was enacted to deter economic offenders from evading the process of Indian law by remaining outside the jurisdiction of Indian courts.

Under this law, the ED is mandated to attach the properties of the fugitive economic offenders who have escaped from India warranting arrest and provide for the confiscation of their properties to the Central Government.

What is PMLA, 2002?

About:

The Prevention of Money Laundering Act, 2002 (PMLA) is an Act of the Parliament of India enacted to prevent money laundering and provide for the confiscation of property derived from money laundering.

It aims to combat money laundering related to illegal activities such as drug trafficking, smuggling, and terrorism financing.

Key Provisions of PMLA:

Offences and Penalties: PMLA defines money

laundering offences and imposes penalties for such activities. It includes rigorous imprisonment and fines for offenders.

Attachment and Confiscation of Property: The Act allows for the attachment and confiscation of property involved in money laundering. It provides for the establishment of an Adjudicating Authority to oversee these proceedings.

Reporting Requirements: PMLA mandates certain entities, such as banks and financial institutions, to maintain records of transactions and report suspicious transactions to the Financial Intelligence Unit (FIU).

Designated Authority and Appellate Tribunal: The Act establishes a Designated Authority to assist in the investigation and prosecution of money laundering offences. It also provides for the establishment of an Appellate Tribunal to hear appeals against orders of the Adjudicating Authority.

Objectives of PMLA:

Prevention: To prevent money laundering by implementing stringent measures and monitoring financial transactions.

Detection: To detect and investigate instances of money laundering through proper enforcement and regulatory mechanisms.

Confiscation: To confiscate properties derived from money laundering activities to deter offenders and disrupt illicit financial flows.

International Cooperation: To facilitate international cooperation in combating money laundering and terrorist financing activities.

Recent Amendments to PMLA, 2002:

Clarification about the Position of Proceeds of Crime: Proceeds of the Crime not only includes the property derived from scheduled offence but would also include any other property derived or obtained indulging into any criminal activity relate-able or similar to the scheduled offence.

Money Laundering Redefined: Money Laundering was not an independent crime rather depended on another crime, known as the predicate offence or scheduled offence. The amendment seeks to treat money laundering as a stand-alone crime.

EXERCISE UDARA SHAKTI 2024

Context:

Recently, the Indian Air Force and Royal Malaysian Air Force participated in Exercise Udara Shakti 2024.

About Exercise Udara Shakti:

The joint air exercise was conducted in collaboration with the Royal Malaysian Air Force (RMAF) at Kuantan, Malaysia.

It was aimed at bolstering operational efficiency, technical experts of both Air Forces engaged in exchange of their maintenance practices.

During the exercise, IAF's Su-30MKI fighter jets engaged in air combat missions alongside the RMAF's Su-30MKM fighters, enabling the crew of both air forces to familiarize with each other's operational protocols, thereby enhancing interoperability, commonality and overall effectiveness in Su-30 aircraft operations.

Key facts about Su-30MKI

The Sukhoi Su-30MKI is a multirole combat fighter aircraft.

It is jointly developed by the Sukhoi Design Bureau and Hindustan Aeronautics Limited (HAL) for the Indian Air Force (IAF).

Based on the Su-30 fighter aircraft, Su-30MKI is equipped with thrust vectoring control and canards.

EXERCISE MITRA SHAKTI

Context

The Indian Army and the Sri Lankan Army will kick off their joint exercise, "Mitra Shakti," at Maduruoya in Sri Lanka's Southern Province.

About Exercise Mitra Shakti:

It is a joint military exercise between India and the Sri Lankan army.

This year it is the 10th edition of the exercise.

A unit of 120 soldiers from the Indian Army's Rajputana Rifles (Raj Rif) will participate in this exercise.

The focus of this year's exercise is on joint operations in semi-urban environments, aligning with Chapter VII of the United Nations Charter, which deals with actions regarding threats to peace and security.

It aims to improve the operational proficiency of both armies by facilitating the exchange of skills, experiences, and best practices.

This collaboration is designed to enhance the armies' abilities to handle contemporary security challenges, such as counter-terrorism and urban warfare.

An official noted that this exercise plays a significant role in strengthening defence ties and improving coordination between the Indian and Sri Lankan armed forces.

This annual event is crucial for fostering cooperation and enhancing interoperability between the two nations' armed forces.

TARANG SHAKTI EXERCISE TO BE BIENNIAL EVENT, SAYS IAF CHIEF

Context

India will host the international air exercise 'Tarang Shakti' in two phases, taking place in Tamil Nadu and Rajasthan.

About Exercise 'Tarang Shakti:

It will be the largest international air exercise ever conducted in India, with invitations extended to 51 countries.

This exercise aims to strengthen strategic relations with our friends from the international community.

Objective: The plan is to invite friendly foreign countries with whom the IAF interacts regularly and has a certain degree of interoperability.

Participating countries: Fifty-one countries were invited to take part in the exercise and nearly 30 of them will be taking part in it

Phase one of the exercise will be conducted at Sulur in Tamil Nadu from August 6 to August 14 and four countries including France, Germany, Spain and the United Kingdom will participate with their assets.

Phase two will be held at Jodhpur in Rajasthan from September 1 to 14 and it will see participation from Australia, Bangladesh, Greece, Singapore, UAE and the USA with their assets.

It represents a unique opportunity for these nations to collaborate and enhance their tactical and operational capabilities.

INS ARIGHAT

Context:

India's second nuclear submarine, the Arighaat, was officially commissioned into the Indian Navy in Visakhapatnam, following rigorous trials conducted over the past few months.

Status of Navy's Submarines in India:

Current Fleet:

The Indian Navy's submarine fleet includes *two nuclear-powered ballistic missile submarines (INS Arihant and INS Arighaat) and 16 conventional submarines.* The Navy is also constructing two additional larger SSBNs.

Operational Readiness:

The Navy is authorized to maintain *a fleet of 18 submarines,* but operational availability can be affected by maintenance and refitting schedules, with about *30% of the fleet typically under repair.*

About the newly inducted INS Arighaat:

INS Arighaat is a *6,000-tonne Arihant-class ballistic missile submarine,* which will join its predecessor, INS Arihant, as a vital component of India's *nuclear triad.*

The submarine can carry up to *12 K-15 SLBMs with a range of approximately 750 km or four K-4 SLBMs exceeding 3,500 km.*

- It is powered by *an 83 MW pressurized light-water nuclear reactor,* allowing it to remain submerged for extended periods without surfacing compared to the *diesel-electric submarine.*

It will enhance *India's nuclear deterrence,* support *strategic balance in the region,* and play a crucial role in national security.

How does it significantly strengthen India's nuclear triad?

Enhances Second-Strike Capability: With two nuclear submarines now operational, India can maintain a *constant presence of a submarine patrolling its waters, ready to launch a nuclear strike at short notice in retaliation.*

Expands Missile Reach: INS Arighaat is equipped with indigenously developed K-15 missiles with a *range of over 700 km and long-lasting availability underwater due to a nuclear-powered engine* without surfacing.

From the South China Sea, these submarines can *potentially target locations in China, including its capital Beijing.*

Both of this major developments will provide India with a more balanced and robust nuclear deterrent capability across all three domains – *land, air, and sea.*

Way forward:

Indigenous Submarine Development:

Accelerate the development and commissioning of indigenous *SSBNs (Submersible Ship Ballistic Missile Nuclear)* and advanced *SLBMs (Submarine-Launched Ballistic Missiles)* to further strengthen India's strategic autonomy and ensure sustained deterrence capabilities.

Strategic Partnerships and Modernization:

Enhance collaboration with *global naval powers for technology transfers and expertise* while modernizing the current submarine fleet to ensure continued operational readiness and address emerging maritime security challenges.

Mains (PYQs)

Q What are the maritime security challenges in India? Discuss the organizational, technical and procedural initiatives taken to improve maritime security. *(UPSC IAS/2022)*

ART & CULTURE

PROJECT PARI

Context

The Ministry of Culture, Government of India, on the occasion of the 46th Session of the World Heritage Committee Meeting, has initiated Project PARI (Public Art of India)

About Project PARI:

The Project PARI (Public Art of India) aims to stimulate dialogue, reflection, and inspiration, contributing to the dynamic cultural fabric of the nation.

It provides a platform to uplift the aesthetic and cultural outlook of Delhi while adding grandeur to the rich historical legacy of our national capital.

The representation of Art in public spaces is particularly significant as it showcases the nation's rich and diverse cultural heritage.

The proposed sculptures being created for Project PARI include wide-ranging ideas such as paying tributes to nature, ideas inspired by the Natyashastra, Gandhi ji, toys of India, hospitality, ancient knowledge, Naad or Primeval Soun, Harmony of life, Kalpataru – the divine tree, etc.

Women artists have been an integral part of Project PARI and their participation in large numbers is a testimony of Bharat's NARI SHAKTI.

This initiative is being executed by the Lalit Kala Akademi, an autonomous institution under the Ministry of Culture.

THE ART OF WAR - SUN TZU

The Art of War is a classic work attributed to Sun Tzu, a Chinese military strategist and philosopher, dating back to the 5th century BC. It is divided into 13 chapters, each focusing on different aspects of warfare and strategy.

The text has transcended military applications, impacting fields such as business, sports, and management. Its principles of strategy, competition, and leadership continue to resonate in various areas of modern life. Let us see how.

The actual title can be misleading as the contents about the book can be best inferred as **"The art of Not going to war".**

Here are some lessons from this masterful treatise:

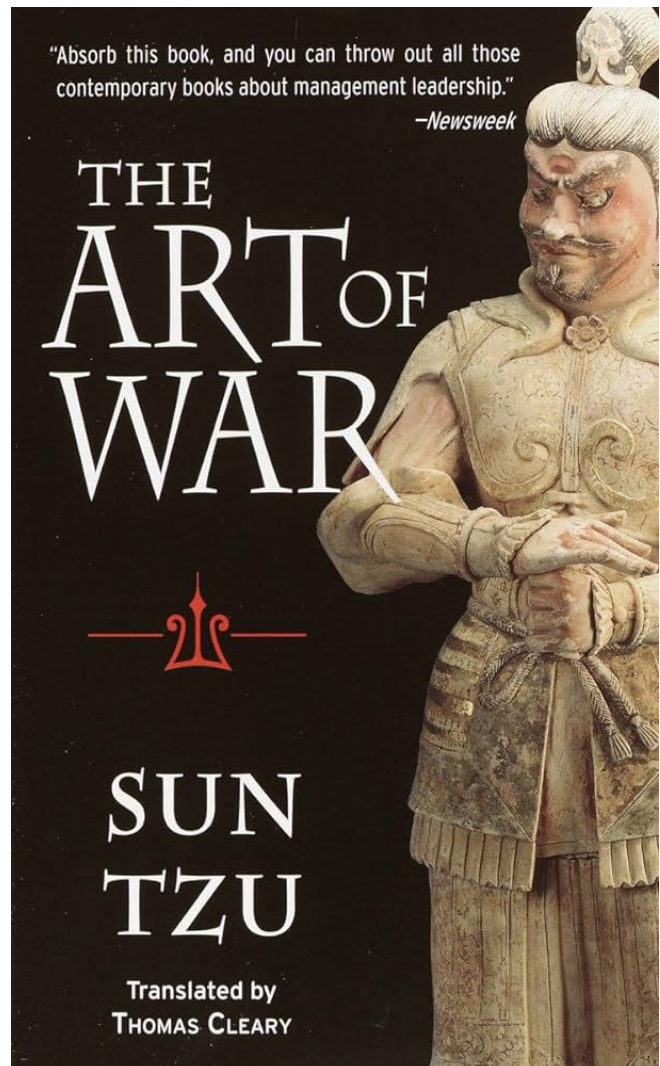## 1.Only enter battles you know you can win.

Winners know when to fight and when not to fight. Losers always fight and thus often end up losing. Winners know when to fight and when not to fight. Losers always fight and thus often end up losing.

Great sport champions know when to quit. Ex: Bobby Fischer, Sachin Tendulkar, M. S Dhoni retired despite having the capacity to compete.

When starting a business, it's crucial to assess the landscape first. Are you positioned to compete with major players in your industry? If not, can you find a unique niche to exploit?

For instance, launching a soda brand to rival Coca-Cola would likely be a losing battle, given that over 1 billion Coca-Cola drinks are consumed daily. However, you might consider creating a premium, eco-friendly soda aimed at environmentally conscious consumers, particularly single parents. This targeted approach could lead to substantial success.

In short, only engage in battles where you have a clear path to victory.

"Absorb this book, and you can throw out all those contemporary books about management leadership."
—*Newsweek*

THE ART OF WAR

SUN TZU

Translated by
Thomas Cleary

2. Know yourself and your enemy.

One of the critical pieces of wisdom here is that, 'the general who thoroughly understands the advantages that accompany variation of tactics, knows how to handle his troops.' Being prepared for war means being in a permanent state of readiness, and always having a series of plans to preempt an attack.

In your preparation, you want all the circumstances to favor you and your army. If

you arrive in battle first, your men rest and wait, defending their ground. If you arrive in battle second, your troops are already tired from marching and now must fight.

Any conflict or competition you are preparing for, requires this.

"Know what UPSC exam is, Understand its difficulty, Be aware of the strategies, then try to tackle it. The chances for clearing this exam becomes higher.

3. Leadership

"A skilled general leads his army, as if he was leading a single man by the hand."

He underscores the importance of clear communication, decisiveness, wisdom, insight and adaptability that a leader should possess. `

Whether you're managing a big army or a small one, the tools are the same: Break them down into smaller groups and then use clear signals to steer them into the right direction.

There are five essentials for victory:

He will win who knows when to fight and when not to fight.

He will win who knows how to handle both superior and inferior forces.

He will win whose army is animated by the same spirit throughout all it's ranks.

He will win who, prepared himself, waits to take the enemy unprepared.

He will win who has military capacity and is not interfered with by the sovereign."

In Sun Tzu's philosophy, true genius lies in being adaptable like water. Water possesses both offensive and defensive strength; it cannot be effectively attacked or resisted. When faced with a force, like ocean waves, it simply flows around obstacles, finding weaknesses. This ability to redirect and adapt makes water a powerful metaphor for strategy—fluid, versatile, and capable of overcoming challenges by flowing around them rather than confronting them head-on.

Bruce Lee when talking about his fighting style famously said:

"You must be shapeless, formless, like water. When you pour water in a cup, it becomes the cup. When you pour water in a bottle, it becomes the bottle. When you pour water in a teapot, it becomes the teapot. Water can drip and it can crash."

Become like water my friend.