




UPDATED CLASSROOM STUDY MATERIAL

(July 2022 - 15th August 2022)

 8468022022, 9019066066

 www.visionias.in



MAINS 365 - UPDATION

Table of Contents

1. POLITY AND GOVERNANCE _____	4	3.3.2. Five Years of Goods and Services Tax (GST)	37
1.1. Right to Information _____	4	3.4. Monetary Policy, Banking and Payment _____	38
1.1.1. Central Information Commission _____	4	3.4.1. Inflation _____	38
1.2. Right to be Forgotten _____	5	3.4.2. Inflation Targeting _____	38
1.3. Civil Services Reforms at a Glance _____	7	3.4.3. Food Inflation _____	40
1.3.1. National Standards for Civil Service Training Institutions (NSCSTI) _____	7	3.4.3.1. Food Crisis _____	42
1.4. Undertrials _____	9	3.4.4. Indian Rupee (INR) Depreciation _____	42
1.5. Mediation Bill 2021 _____	10	3.4.5. Financial Services Institution Bureau (FSIB) _____	44
1.6. Social Media-Censorship and Regulation _____	11	3.5. Agriculture _____	46
1.7. Model Tenancy Act, 2021 _____	13	3.5.1. Livestock Sector _____	46
1.8. Errata _____	14	3.6. Industry and Infrastructure _____	47
2. INTERNATIONAL RELATIONS _____	15	3.6.1. Industrial Policy of India _____	47
2.1. India and South Asia _____	15	3.6.2. Production-Linked Incentive (PLI) Scheme _____	48
2.2. India-ASEAN _____	16	3.6.3. Toy Sector in India _____	49
2.3. China Pakistan Economic Corridor (CPEC) _____	17	3.7. Mining, Power Sector and Transport _____	49
2.4. China-Taiwan _____	18	3.7.1. Supply of Critical Minerals _____	49
2.5. India-Latin America _____	20	3.7.2. District Mineral Foundation (DMF) _____	51
2.6. India-Mauritius _____	21	3.7.3. Energy Poverty _____	52
2.7. India-South Korea _____	22	3.7.4. Revamped Distribution Sector Scheme (RDSS) for DISCOMS _____	54
2.8. India-Germany _____	23	3.8. Services Sector _____	55
2.9. Chabahar Port _____	23	3.8.1. Spectrum allocation _____	55
2.10. Bilateral cooperation for Climate Change _____	25	3.9. Business and Innovation _____	56
2.11. Nuclear Disarmament _____	27	3.9.1. Ease of Doing Business (EoDB) _____	56
2.11.1. Nuclear Non-Proliferation Treaty (NPT) _____	27	3.9.2. Digital India _____	58
2.12. Updates _____	29	4. SECURITY _____	60
3. ECONOMY _____	31	4.1. Extremism and Terrorism _____	60
3.1. Labour Reforms, Employment and Skill Development _____	31	4.1.1. Prevention of Money Laundering Act (PMLA) _____	60
3.1.1. Demographic Dividend _____	32	4.1.2. Foreign Contribution (Regulation) Act (FCRA) _____	62
3.2. Poverty and Inclusive Growth _____	33	4.1.2.1. Foreign Contribution (Regulation) Amendment Rules, 2022 _____	63
3.2.1. Inequality in India _____	33	4.2. Data Protection _____	63
3.2.2. Urban Poverty _____	34	4.2.1. Personal Data Protection (PDP) Bill _____	63
3.2.3. Direct Benefits Transfers _____	35	4.3. Weapons of Mass Destruction (WMD) _____	64
3.3. Fiscal Policy and Related News _____	35	5. ENVIRONMENT _____	66
3.3.1. Cash Economy _____	35	5.1. Climate change _____	66
		5.1.1. UN Ocean Conference (UNOC) _____	66
		5.2. Air _____	66
		5.2.1. Emission Norms for Thermal Power Plants _____	66
		5.2.2. Ozone Hole Over the Tropics _____	67



5.3. Water _____	68	5.9.3. Lok Sabha passed the Wildlife (Protection) Amendment Bill, 2021 _____	87
5.3.1. Groundwater Contamination _____	68	6. SOCIAL ISSUES _____	88
5.4. Sustainable Development _____	70	6.1. National Education Policy (NEP), 2020 _	88
5.4.1. Sustainable Finance in India _____	70	6.1.1. Quality of Higher Education in India _____	90
5.4.2. Energy Conservation (Amendment) Bill, 2022 _____	71	6.1.2. School Health Services _____	91
5.4.3. Right to Repair _____	72	6.1.3. Artificial Intelligence in Education _____	93
5.5. Renewable Energy and Alternative Energy Resources _____	73	6.2. Child Labour _____	95
5.5.1. Wind Energy _____	73	6.3. Persons with Disabilities (PwDs) _____	95
5.5.1.1. Offshore Wind Energy _____	73	6.4. Population Growth in India _____	98
5.5.2. Ocean Thermal Energy _____	74	6.5. Population Regulation Bill, 2019 _____	98
5.6. Conservation Efforts _____	76	6.6. Right to Health _____	100
5.6.1. New Ramsar Sites _____	76	6.6.1. Universal Immunisation _____	100
5.6.2. Tiger Conservation in India _____	78	6.7. National Food Security Act (NFSA) ____	102
5.6.2.1. India's first inter-state tiger relocation project _____	78	7. SCIENCE AND TECHNOLOGY _____	103
5.6.3. IPBES Assessment Report: Sustainable Use of Wild Species _____	79	7.1. Awareness in the fields of IT, Computers, Robotics _____	103
5.6.4. Proposed amendments in Environment Protection Act _____	80	7.1.1. Web 3.0 _____	103
5.6.5. Amendments to Environmental Impact Assessment (EIA) Rules _____	80	7.1.2. Supercomputing in India _____	104
5.6.6. Natural Resource Accounting (NRA) _____	81	7.2. Awareness in the fields of Space ____	104
5.7. Disaster Management _____	82	7.2.1. Space Sustainability _____	104
5.7.1. Landslides in India _____	82	7.2.2. Liquid-Mirror Telescope (LMT) _____	105
5.7.2. Global Platform for Disaster Risk Reduction (GP2022) _____	83	7.3. Awareness in the fields of Nano-Technology, Bio-Technology and issues relating to Intellectual Property Rights _____	106
5.8. Geography and Miscellaneous _____	83	7.3.1. India's Bioeconomy Report 2022 _____	106
5.8.1. Coastline Erosion _____	83	7.3.2. Genome Editing _____	108
5.8.2. Aridity Anomaly Outlook Index _____	84	7.3.3. CRISPR-Cas 9 _____	108
5.8.3. Access to Clean and Healthy Environment as Universal Human Right _____	85	7.4. Health _____	109
5.9. Updates _____	85	7.4.1. National Anti-Doping Act, 2022 _____	109
5.9.1. India Updates its NDCs _____	85	7.4.2. Anti-microbial Resistance (AMR) _____	111
5.9.2. Parliament Passed the Indian Antarctic Act, 2022 _____	86		

Copyright © by Vision IAS

All rights are reserved. No part of this document may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without prior permission of Vision IAS.

VISIONIAS
INSPIRING INNOVATION

ABHYAAS MAINS 2022 ALL INDIA GS MAINS MOCK TEST (OFFLINE)



- 🎯 All India Percentile
- 🎯 Closely aligned to UPSC pattern
- 🎯 Concrete Feedback & Corrective Measures
- 🎯 Available in **ENGLISH** / हिन्दी

PAPER DATE

GS-1 & GS-2
27 AUGUST

GS-3 & GS-4
28 AUGUST



40 CITIES

Register at: www.visionias.in/abhyaas



Ahmedabad | Aizawl | Bengaluru | Bhopal | Bhubaneswar | Chandigarh | Chennai
Coimbatore | Dehradun | Delhi | Ghaziabad | Gorakhpur | Guwahati | Hyderabad | Imphal
Indore | Itanagar | Jabalpur | Jaipur | Jammu | Jodhpur | Kanpur | Kochi | Kolkata
Lucknow | Ludhiana | Mumbai | Nagpur | Noida | Patna | Prayagraj | Pune | Raipur
Ranchi | Rohtak | Shimla | Thiruvananthapuram | Varanasi | Vijayawada | Visakhapatnam

1. POLITY AND GOVERNANCE

1.1. RIGHT TO INFORMATION

RIGHT TO INFORMATION AT A GLANCE

⊖ RTI or Right to Information Act is a **fundamental right and is an aspect of Article 19 (1)(a)** of the Indian Constitution. Right to Information Act 2005 **mandates timely response to citizen requests for government information.**



Provisions of RTI Act, 2005

- ⊖ **Section 2(h):** Public authorities means all authorities and bodies under Constitution or any other law, and inter alia includes all authorities under Central, state governments and local bodies.
- ⊖ **Section 4 1(b):** Maintain and proactively disclose information.
- ⊖ **Section 6:** Prescribes simple procedure for securing information.
- ⊖ **Section 7:** Fixes time limit for providing information(s) by PIOs (Public Information Officers).
- ⊖ **Section 8:** Only minimum information exempted from disclosure.
- ⊖ **Section 19:** Two tier mechanism for appeal.



Benefits of RTI

- ⊖ **Empower citizens** by equipping them with power to seek information from public authorities.
- ⊖ **Promote transparency and accountability** in the working of the Government.
- ⊖ **Reduce corruption**, and make democracy work for the people in real sense.
- ⊖ Ensures **strengthening of government-public relation** due to the increase in communication.
- ⊖ Helps to **improve government records/database management.**
- ⊖ **Increasing awareness of citizens** regarding governmental functions and strengthens parliamentary democracy.



Challenges with RTI

- ⊖ **Poor record-keeping practices** within the bureaucracy results in missing files.
- ⊖ **Lack of infrastructure and staff** for running Information Commissions.
- ⊖ **Lack of awareness** among masses.
- ⊖ **Lack of Proactive declaration** of information by the government.
- ⊖ **Increasing frivolous RTI applications.**
- ⊖ **Huge pendency and delays** in disposal of RTI applications.



Way Forward

- ⊖ **Enhance number of information commissioner (IC)** in Chief Information Commissioner (CIC) to quickly dispose pending cases.
- ⊖ Campaigning **through Publication of RTI Act 2005 in regional language, adding a chapter on RTI Act, 2005 in school/college curriculum** to create awareness among citizens.
- ⊖ **Protection to whistleblowers** disclosing information in public interest.
- ⊖ Declaration of information by government proactively.
- ⊖ **Training of PIOs, experts for handling RTI applications.**

1.1.1. CENTRAL INFORMATION COMMISSION

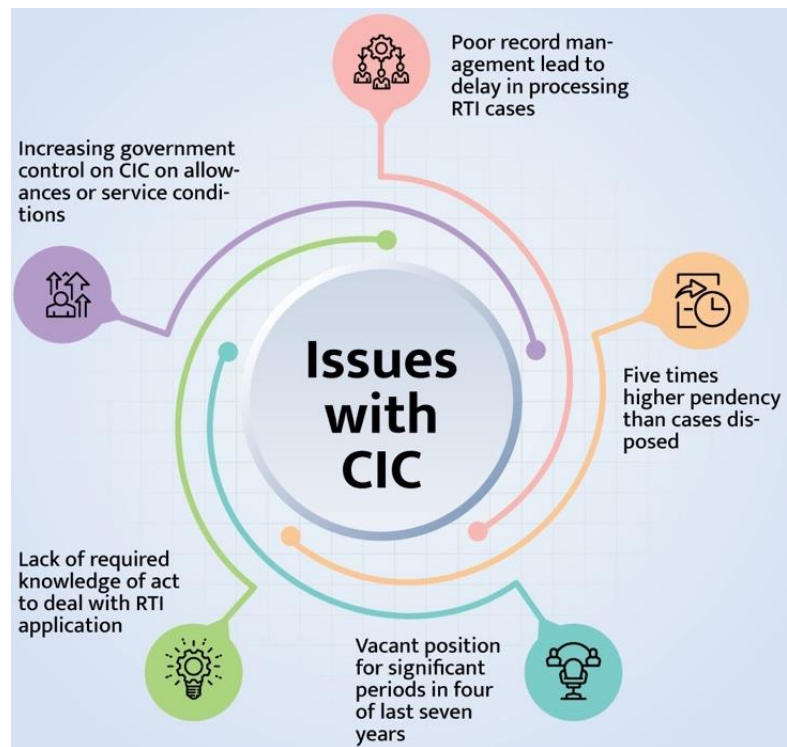
Why in news?

Recently, Central Information Commission (CIC) achieved a **consistent decline in pendency of RTI (Right to Information) cases** with constant rise in disposal of RTI appeals.

About Central Information Commission

- CIC, a **statutory body**, has been constituted with **effect from 2005 under RTI Act, 2005**. Jurisdiction of Commission extends over all Central Public Authorities.
 - It consists of **Chief Information Commissioner (CIC)** and **not more than ten Information Commissioners (ICs)**.
 - CIC is **not eligible for reappointment**.
- By RTI (Amendment) Bill, 2019, **tenure of commissioners** has been **cut to three years** in new rules.
 - Earlier, 2005 Act gave them a fixed tenure of five years or a retirement age of 65 years, whichever is earlier.

- This was done to ensure that ICs can use their powers even with senior-most officers of administration without any fear of their jobs.
- **Functions of CIC**
 - CIC have same powers as are vested in a civil court while trying a suit under Code of Civil Procedure, 1908, in respect of following matters:
 - ✓ **Summoning and enforcing the attendance of persons** and compel them to give oral or written evidence on oath and to produce the documents or things.
 - ✓ **Requiring the discovery and inspection of documents.**
 - ✓ **Receiving evidence** on affidavit.
 - CIC receive and inquire into a complaint from any person,
 - ✓ who has been **refused access to any information** requested.
 - ✓ who has not been given a response to access to information within the time limit specified etc.



Initiatives taken to improve functioning of CIC

- **Online portal: 24 hours' portal service** for e-filing of RTI applications during any part of day or night and from any part of country or abroad.
- **e-governance:** Technology has been harnessed for developing mobile based applications, e-hearing, e-notification etc., facilitating task of information seekers in availing remedies under law.
- **National Federation of Information Commissions of India (NFICI):** To facilitate coordination and mutual consultations among CIC and SIC as well as exchange of information on laws and their interpretation through education, research and dissemination of knowledge, leading to strengthening administration of RTI Act.
- **RTI (Amendment) Bill, 2019:** To streamline and institutionalize RTI Act of 2005.

Way forward

- **Record management:** By uploading all disclosable documents on departmental websites thus **reducing burden on department to provide information** and **reduce Physical document storage and movement.**
- **Training:** In-house training of PIOs, training programmes by experts for handling RTI applications to **increase efficiency of PIOs.**
- **Awareness:** Campaigning **through Radio, Television and Print Media, Publication of RTI Act 2005 in regional language** etc. can be used to create awareness among citizens.
- **Quick Disposal:** Need to enhance number of information commissioner in CIC in order to quickly dispose pending cases.

1.2. RIGHT TO BE FORGOTTEN

Why in news?

Recently, Supreme Court directed its registry to **remove details of a couple** from search engines and Internet.

More on news

- Petitioner contented that her name in the public domain **causes embarrassment, social stigma and infringes her privacy.**
- Petitioner had raised the '**right to be forgotten (RTBF)**' and '**right of eraser**' being rights of privacy.
- This direction **expands the ambit of right to privacy and RTBF.**

Right to Privacy vis a vis RTBF

Right to Privacy (under Article 21) includes information that is not public whereas, RTBF involves removing information that was publicly known at a certain time and not allowing third parties to access the information anymore.

About Right to be Forgotten

- RTBF is the **right to have publicly available personal information removed from the internet**, search, databases, websites, or any other public platforms, once the personal information in question is no longer necessary.
 - RTBF traces its **origin to the ‘right to oblivion’** in the French jurisprudence.
 - It was utilized by former offenders, who had served their sentence, to object to publication of materials regarding their offense and consequent conviction.
 - It was a right seen necessary to provide for easier social integration of erstwhile offenders.
 - However, **RTBF cannot be an absolute right** and would be objected to reasonable restrictions.
- It has been recognised **as a statutory right in the European Union** under the General Data Protection Regulation (GDPR), and has been upheld by a number of courts in the United Kingdom, and in Europe.
 - It was **implicitly recognized as a right for the first time by EU Directive on Data Protection** in 1995.
 - Article 17 of GDPR, 2016 provides Right to Erasure(or the right to be forgotten), which permits a data subject to request a controller to delete personal data.

Supreme Court on Right to be Forgotten (RTBF)

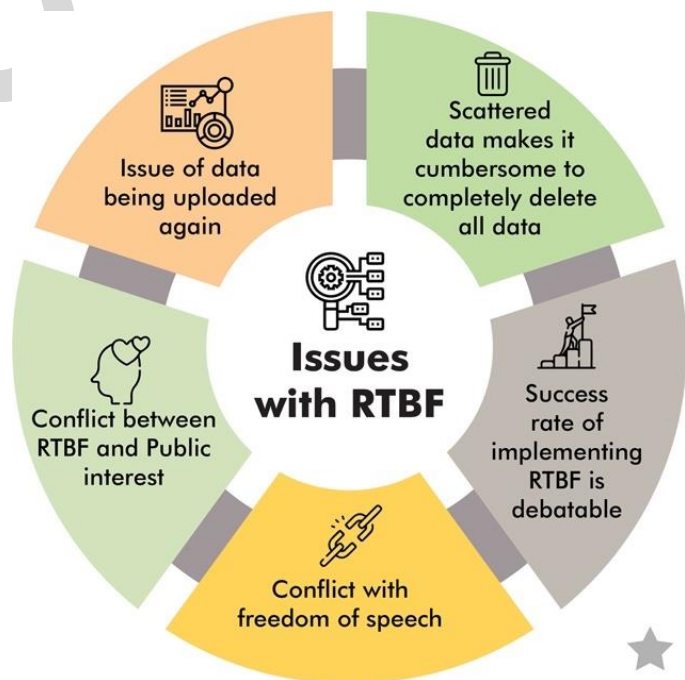
- In landmark case of *K.S. Puttaswamy v. Union of India*, **SC recognised RTBF as part of right to life under Article 21.**
- SC had stated that the RTBF was **subject to certain restrictions**, and that it could not be used if the material in question was required for the:
 - exercise of right to freedom of expression and information.
 - fulfilment of legal responsibilities.
 - execution of a duty in the public interest or public health.
 - protection of information in public interest.
 - for purpose of scientific or historical study, or for statistical purposes; or
 - establishment, executing, or defending of legal claims.

Right to be forgotten (RTBF) in India

- In India, there is no law that specifically provides for RTBF. However, the now withdrawn Personal Data Protection Bill (PDPB), 2019 contained provisions related to doctrine of RTBF.
 - Unlike the GDPR, Personal Data Protection Bill only provides for prevention of continuing disclosure of personal data and not the deletion of personal data.
- **Information Technology Rules, 2011** — which is the current regime governing digital data — also does **not have any provisions** relating to the RTBF.

Way forward

- **Balancing rights:** The Parliament and Supreme Court should conduct a thorough examination of the RTBF and devise a method for **balancing the competing rights to privacy and the freedom of speech and expression.**
- **Data Protection:** The government should devise a strong Data Protection Policy to prevent misuse, leakage of data.
- **Discard data:** Online search tools and large computerised stages can modify their principles and destroy information after a specific time frame **thus balancing RTBF and Right to Privacy.**
- **Framework:** A framework should be developed highlighting conditions such as protect life of an individual, protection from assault, infamy etc. under which RTBF can be enforced.
- **Balance between RTBF and public interest:** If the information is of public interest, the right to information of the public should prevails over RTBF.



1.3. CIVIL SERVICES REFORMS AT A GLANCE

CIVIL SERVICE REFORMS AT A GLANCE

In India, present system of civil services was created by British to promote and preserve the interests of British. After Independence, Sardar Vallabhai Patel insisted on continuation of Civil Services and bureaucracy had been entrusted with key responsibility of nation-building.



Importance of Civil Services Reforms

- ⊖ **Strengthening administrative capacity** to perform core government functions.
- ⊖ Ensure **transparency and accountability** in decision making.
- ⊖ To **implement welfare schemes** and brings **socio-economic transformation**.
- ⊖ **Improve efficiency, effectiveness, professionalism, and democratic character** of a civil service.
- ⊖ Promoting better delivery of public goods and services.



Initiatives taken to improve functioning of civil servants

- ⊖ **Mission Karmayogi, an Integrated Government Online Training (iGOT) Platform**, to build future-ready civil service with the right attitude, skills and knowledge, aligned to vision of New India.
- ⊖ **Aarambh** is first ever common foundation course for civil servants training.
- ⊖ **National Training Policy** to develop a **professional, impartial and efficient civil servants** that is responsible to needs of citizens and ensure that they possess requisite knowledge, and skills.
- ⊖ **Lateral entry** i.e. **Direct induction of domain experts at middle or senior levels** of administrative hierarchy.



Challenges with Civil Services Reforms

- ⊖ **Tendency of a political executive to prefer loyalty over efficiency** in selecting civil servants to higher posts has impacted their morale.
- ⊖ **Lack of management capacity** to implement reforms.
- ⊖ Performance records are mostly prepared by superiors leaving a lot of scope for **personal biases and prejudice**.
- ⊖ **Absence of any systemic mechanism** to ensure an uninterrupted supply chain of motivation and strong sense of purpose.
- ⊖ **Inappropriate transfer of models** and practices due to interference of local politicians.



Way Forward

- ⊖ Bring greater domain knowledge and **empower officers for more enlightened** and insightful decision-making.
- ⊖ **Less protectionism, more specialisation and regular sensitisation** is required.
- ⊖ Focus on **external accountability mechanisms like citizen charters, social audits** and encourage outcome orientation among civil servants.
- ⊖ Proper training should be provided right at induction level with an emphasis on **Empowered, Effective, Exploratory and Electronic Learning**.
- ⊖ **Surinder Nath Committee** recommended that performance appraisal should be primarily used for overall development of an officer.
- ⊖ No premature transfer should be allowed and there should be fixation of a minimum tenure for each post.
- ⊖ There must be a **Code of Ethics for civil servants and Model Code of Governance** as suggested by 1st ARC.

1.3.1. NATIONAL STANDARDS FOR CIVIL SERVICE TRAINING INSTITUTIONS (NSCSTI)

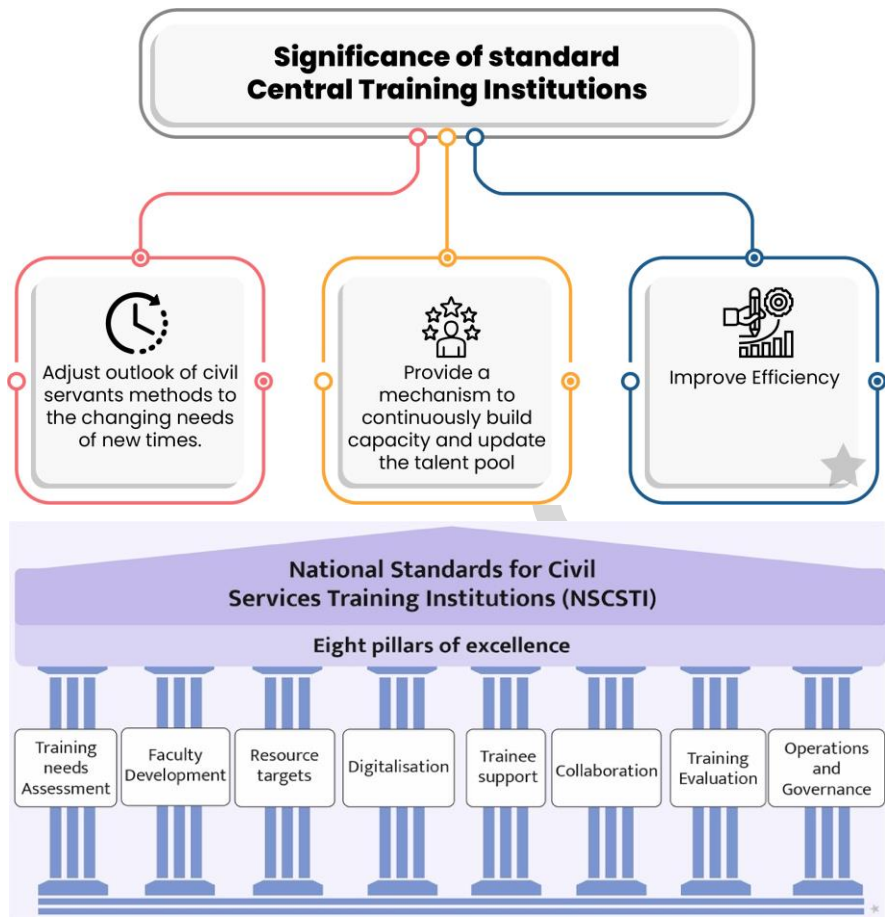
Why in news?

Recently, **Ministry of Personnel, Public Grievances & Pensions** has launched the National standards for civil service training institutions (NSCSTI).

About NSCSTI

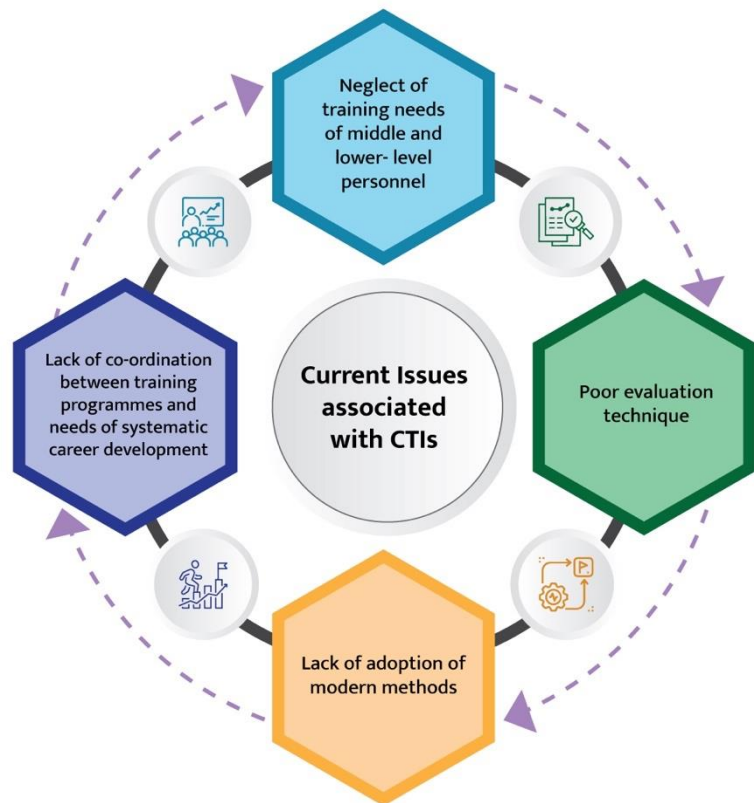
- NSCSTI is developed at **Capacity Building Commission (CBC) headquarters**.
 - Web-portal and approach paper for the National standards also inaugurated.
- India became the **first country in the world** to come out with a **unique model to create standards for civil service training institutions** at national level.

- India is already having standards and accreditation in higher education, healthcare and environment.
- Standards will **equip Central Training Institutions (CTIs)** to help civil servants tackle emerging challenges of 21st century.
- **Objectives of NSCSTI:**
 - NSCSTI creates a baseline for **CTIs** on their current capacity for **elevating their quality and capacity of training delivery** and to **harmonise standards for training**.
 - It will set aspirations for training institutions to **strive towards excellence**.



Way forward

- **Focus on 4Es:** Civil service learning through **Empowered learning, Effective Learning, Exploratory Learning and Electronic Learning** in CTIs and develop a process of self-assessment of civil servants.
- **Remove the non-performers:** Civil servants who are found to be non-performing should be **dismissed or given pre-mature retirement**. This will help **curb complacency, harness competitive spirit** and develop efficient and result oriented outlook in the civil servants.
- **Mid-career training:** The mid-career training to develop **domain knowledge and competence required**.
- **Monitoring:** A monitoring mechanism should be set up for overseeing the implementation of the National Training Policy.



1.4. UNDERTRIALS

UNDERTRIALS AT A GLANCE

Undertrial prisoner is one who has been arrested for some crime who is waiting to appear before the magistrate. As per NCRB, 76% of all prison inmates in country were undertrials, of which about 68% were either illiterate or school dropouts.



Reasons for Undertrials

- ⊖ Delayed Investigation
- ⊖ Inconsistency in bail system
- ⊖ Poor legal aid and representation
- ⊖ Unnecessary arrest and over-policing
- ⊖ Poverty and Illiteracy as majority of undertrials belong to marginalized communities



Issues faced by Undertrial prisoners

- ⊖ Number of unnatural deaths in prisons due to **suicides, accidents, murders etc.**, has increased by **10.74%** between 2018 and 2019, indicating unsafe and violent environment.
- ⊖ **Absence of scientific classification methods** to separate them from others, young offenders into full-fledged criminals occurs very frequently.
- ⊖ Forced to **survive in badly maintained jails**, where **disease, malnutrition and absence of medical services are prevalent.**
- ⊖ Family is forced into **destitution and faces social stigmatization**, result into children turning towards crime and exploitation by others.
- ⊖ Prison guards are given **extremely low salary**, which **encourages them to take corruption.**



Government Initiatives to ameliorate the issues faced by Undertrials

- ⊖ **Fast Track Courts to reduce burden of cases** from HCs and district courts and provide speedy justice.
- ⊖ **e- Courts** to streamline judicial processes, reduce pendency, and help litigants.
- ⊖ **Fast and Secure Transmission of Electronic Records (FASTER) scheme** by which court would electronically transmit bail and other orders to jail authorities, district courts and HC.
- ⊖ **Modernization of Prisons scheme** to improve the condition of prisons, prisoners and prison personnel.
- ⊖ **e- Prisons project** introduce efficiency in prison management through digitization.
- ⊖ **Model Prison Manual** provides information about **legal services available to prison inmates** and free legal services available to them.



Way Forward

- ⊖ All undertrial prisoners should be **effectively produced before presiding magistrates** on dates of hearing.
- ⊖ Police functions should be **separated into investigation and law and order duties** and **sufficient strength be provided to complete investigations on time** and avoid delays.
- ⊖ To counter discrimination, prejudice and bias in police towards certain communities, **sensitisation programmes and workshops should be introduced.**
- ⊖ Undertrials should be housed in open jails, and **provided with better facilities than convicts**, including food, water, medical facilities, etc.
- ⊖ **Nyaya Panchayats** should be authorized to dispose-off small and petty cases.

1.5. MEDIATION BILL 2021

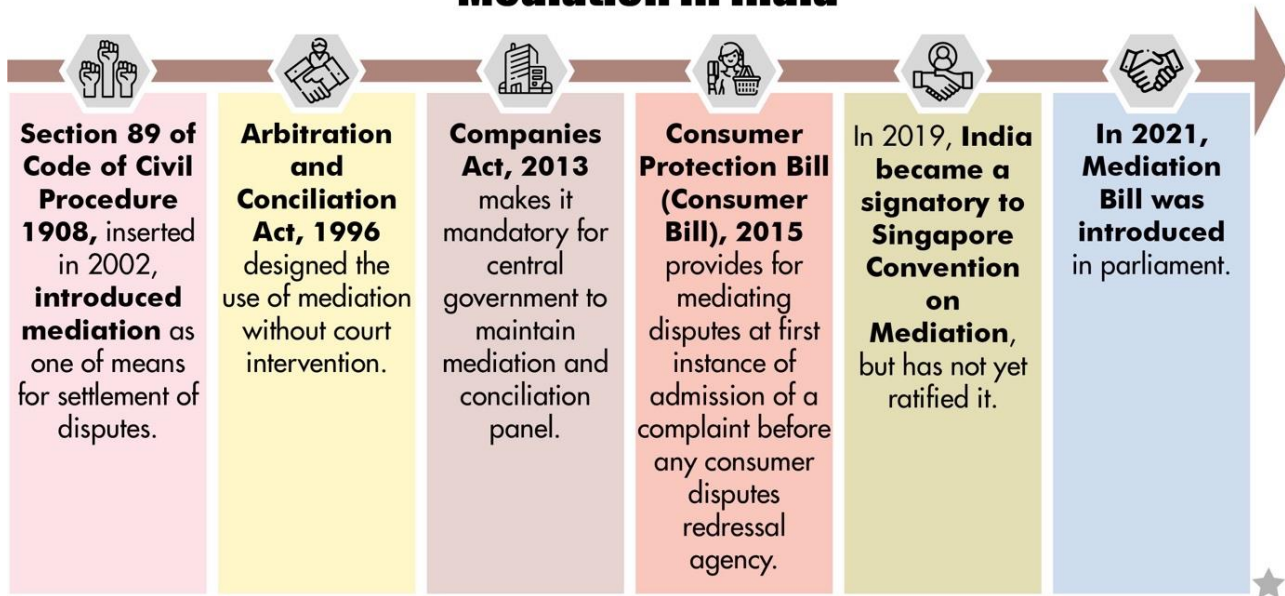
Why in news?

Recently, Parliamentary Standing Committee on Law and Justice recommended substantial changes to Mediation Bill, 2021.

About mediation

- Mediation is a **form of ADR** available to parties. It is a **voluntary process in which parties try to settle disputes** with the assistance of an **independent third person** (the mediator).
 - A mediator **does not impose a solution on the parties** but creates a conducive environment in which they can resolve their dispute.

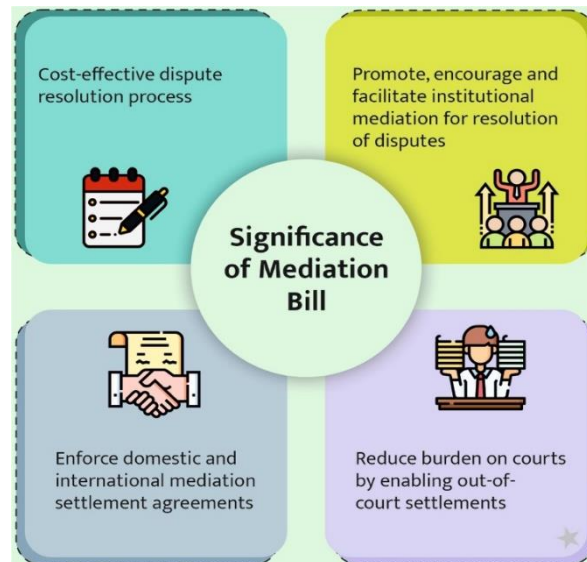
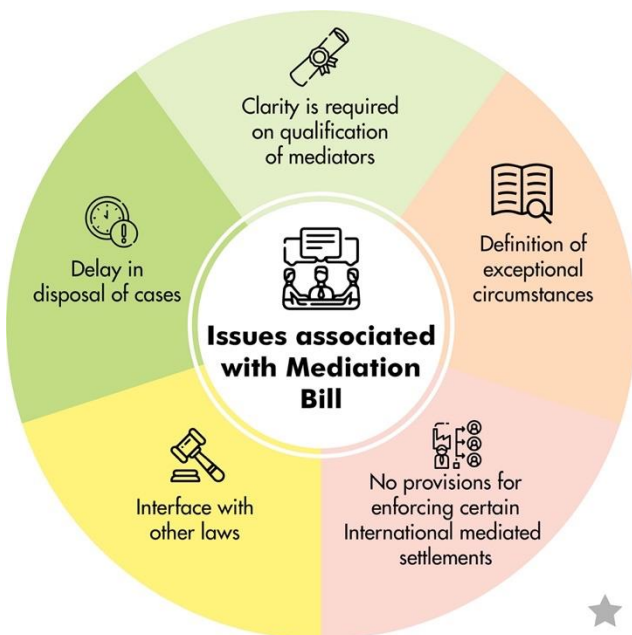
Mediation in India



Key Highlights of the Mediation Bill, 2021

Specifications	Details
Pre-litigation mediation	<ul style="list-style-type: none"> • Parties must attempt to settle civil or commercial disputes by mediation before approaching any court or certain tribunals. • If they fail to reach a settlement, court or tribunal may at any stage refer parties to mediation if they request for same.
Disputes not fit for mediation	<ul style="list-style-type: none"> • It contains disputes relating to claims against minors or persons of unsound mind, involving criminal prosecution, and affecting rights of third parties. • Central government may amend this list.
Applicability	<ul style="list-style-type: none"> • Apply to mediations conducted in India involving only domestic parties, at least one foreign party and relating to a commercial dispute (i.e., international mediation). • If central or state government is a party, it will apply to commercial disputes, and other disputes as notified.
Mediation process	<ul style="list-style-type: none"> • Mediation proceedings will be confidential, and must be completed within 180 days (may be extended by 180 days by parties).
Mediators	<ul style="list-style-type: none"> • Appointed by parties by agreement, or a mediation service provider (an institution administering mediation).
Mediation Council of India (MCI)	<ul style="list-style-type: none"> • Established by Central government, consist of a chairperson, two full-time members, three ex-officio members, and a part-time member from an industry body. • Its functions include registration of mediators and recognising mediation service providers and mediation institutes (which train, educate, and certify mediators).
Mediated settlement agreement	<ul style="list-style-type: none"> • Agreements resulting from mediation (other than community mediation) will be final, binding, and enforceable in same manner as court judgments. • They may be challenged on grounds of fraud, corruption, impersonation.

International mediation	<ul style="list-style-type: none"> • Definition of 'international mediation' and provisions of the Singaporean Convention are incorporated into the bill. • Convention facilitates international trade and commerce by enabling disputing parties to easily enforce and invoke settlement agreements across borders.
Community mediation	<ul style="list-style-type: none"> • Resolve disputes likely to affect the peace and harmony amongst residents of a locality.



Recommendations by the standing committee

- **Pre-litigation mediation:** It should be made optional and introduced in phased manner instead of introducing it with immediate effect for all civil and commercial disputes.
 - **Compulsory provision of pre-litigation mediation should be reconsidered,** and it should be offered as an option to only those who are willing to mediate.
- **Mediation Council in states:** Mediation councils should be instituted in the States as well and these State Mediation Councils should function under **overall superintendence, direction, and control of MCI.**
- **Unique registration number:** Each mediator should be given a unique registration number by Mediation Council and provisions should be made to **empower Mediation Council to continuously evaluate the mediator** by holding training sessions periodically.
- **Nodal authority:** Instead of multiple bodies registering mediators, **proposed Mediation Council of India should be made the nodal authority for registration** and accreditation of mediators.
- **Appointment:** Appointment of Chairperson and Members of MCI should be **made by a selection Committee** constituted by the Central Government.
- **Online Mediation:** Its detailed provisions and modalities should be incorporated in the Bill appropriately as it delivers speedy justice in a cost-effective manner.
- **Revisit definition:** Present definition of 'International Mediation' needs to be revisited, so that, in future, the provisions of Singapore Convention can be incorporated in the enactment without any ambiguity.

1.6. SOCIAL MEDIA-CENSORSHIP AND REGULATION

Why in news?

According to **Twitter's global transparency report**, there has been a rise in **legal demands being made by India** to remove content from Twitter between 2014 and 2020.

Key highlights of the report

- India is in **fourth spot to issue blocking orders between 2014 and 2020**, after Japan, Turkey, and Russia.
- Between 2014 and 2020, government ordered Google to take down numerous pieces of content from services like Search, YouTube, Gmail, and Blogger.

- Reasons being **criticism of government, defamation, adult content, and impersonation among others.**

Evolution of regulation via. Information Technology Act 2020

- IT Act applies to whole of India, and its provisions also apply to any offense, committed even outside territorial jurisdiction of India, by any person irrespective of nationality.
 - Act gives legal validity to **electronic contracts and recognition of electronic signatures** and makes acts like hacking, data/identity theft, defamation, child pornography, and cyber terrorism, a criminal offense.
- 2008 amendment introduced **Section 66A into Act.** Section 66A gave authorities the power to **arrest anyone accused of posting content on social media that could be deemed 'offensive'.**
 - In 2015, SC **struck down this section** of IT Act as it **violated Article 19(1)(a)** (Shreya Singhal v. Union of India 2013).
- **Data privacy rules** introduced in 2011. The rules require firms to **obtain written permission from customers before collecting and using their personal data.**
- Government of India in 2021 notified **IT (Intermediately Guidelines and Digital Media Ethics Code) Rules 2021.**



Implementation Challenges in effecting censorship

- **Subjectivity:** Censorship is a tricky field of science, and it has no objective boundaries. It is wholly reliant on the viewer's sense of morality, with dynamic standards of decency, obscenity, etc.
- **Potential for misuse, overregulation, and abuse:** Censorship provides the state motivated by political gains, an opportunity and means to control the ideas and expression of citizens.
 - Further, a weak criminal justice system, vague language of legislations, and lack of clarity in jurisprudence can make it easier to suppress free speech.
- **Ineffective in certain cases:** Censored material has tendency to find its way into society through underground channels. In some cases, censoring content has led to the generation of widespread curiosity about the censored material, hence defeating the purpose of censorship.

Proposed draft amendment to the IT rules 2021

- **Obligation of intermediaries:** The 2021 Rules require the intermediary to “publish” rules and regulations, privacy policy, and user agreement for access or usage of its services.
- **Expeditious removal of prohibited content:** The 2021 Rules require intermediaries to acknowledge complaints regarding violation of Rules within 24 hours and dispose of complaints within 15 days.
- **Appeal mechanism against decisions of grievance officers:** The 2021 Rules require intermediaries to designate a grievance officer to address complaints regarding violations of the Rules.
- **A Grievance Appellate Committee** will be formed by the central government to **hear appeals against the decisions of grievance officers.**

Way forward

- **Encouraging self-regulation:** Can set up in-house and/or industry-wide depending on the function that it is supposed to serve.
- **Codification of all media laws:** Codification leads to the certainty of governing laws as it packs the law in a systematic manner.
- **Limiting the extent of censoring power of the state.**
- **Adopting proactive or non-punitive steps to address hate speech** such as public education, encouraging diversity etc.
- **Promoting professional education in media:** Ethical standards like privacy, dignity, and freedom of speech can be inculcated in course curriculums to minimize the need of external censorship standards.

1.7. MODEL TENANCY ACT, 2021

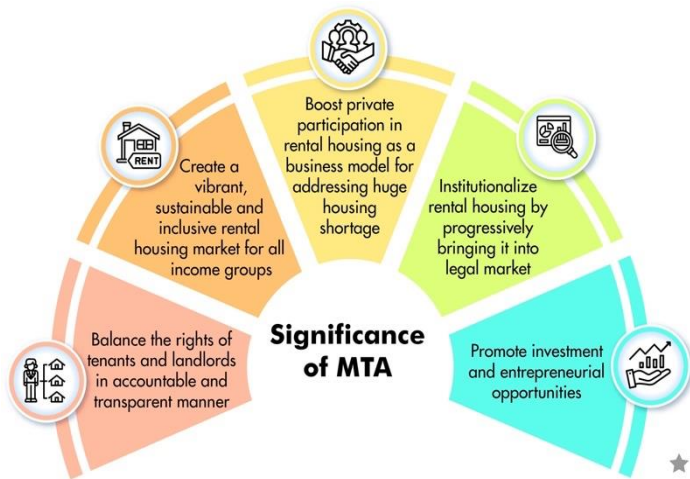
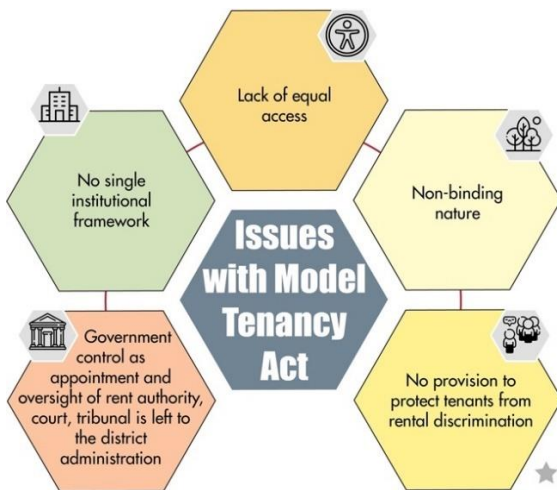
Why in news?

Recently, four States (Andhra Pradesh, Tamil Nadu, Uttar Pradesh and Assam) had revised their tenancy laws to be in line with the Model Tenancy Act (MTA).

About Model Tenancy Act (MTA), 2021

- **Ministry of Housing and Urban Affairs (MoHUA) has approved MTA, 2021** to streamline the process of renting property in all State and Union Territory (UTs) and aid rent economy in estate sector.
 - In 2021, Jammu and Kashmir has become the **first Union Territory to adopt** the MTA.
 - Since **housing** is a part of the **State List** under the **7th Schedule** of the Constitution, Model Act is only a **suggestive framework** (not binding) for states to follow while regulating rental housing and agreements.
 - It replaces existing tenancy provisions of more than 70 years old East Punjab Urban Rent Restriction Act, 1949.
 - As per Census 2011, nearly **1.1 crore houses were lying vacant** in country and making these houses **available on rent** will complement the **vision of 'Housing for All' by 2022**.
- **Key highlights of MTA, 2021:**

Specifications	Detail
Applicability	<ul style="list-style-type: none"> • It'll covers premises let out for residential, commercial or educational use, but not for industrial use. It also won't cover hotels, lodging houses, inns, etc.
Tenancy agreement	<ul style="list-style-type: none"> • All premises (residential or commercial) shall be rented only after a written agreement on mutually agreed terms and informed to proposed Rent Authority within two months from date of tenancy agreement.
Tenancy period	<ul style="list-style-type: none"> • Tenant may request the landlord for renewal or extension of tenancy period. • If tenant fails to vacate premises at the end of tenancy, or on termination of tenancy by an order, he will be liable to pay <ul style="list-style-type: none"> ○ Twice the monthly rent for first two months and, ○ Four times monthly rent subsequently till he occupies premises.
Security Deposit	<ul style="list-style-type: none"> • It has been capped to a maximum of two month's rent for residential properties and, minimum of six month's rent for non-residential property.
Digital platform	<ul style="list-style-type: none"> • It'll be set up in local vernacular language of the State for submitting tenancy agreement and other documents.
Sub-letting	<ul style="list-style-type: none"> • It can only be done with prior consent of landlord, and no structural change can be done by tenant without written consent of landlord.
Three-tier redressal system	<ul style="list-style-type: none"> • The Model Act establishes a three-tier quasi-judicial dispute adjudication mechanism comprising of Rent Authority, Rent Court and Rent Tribunal to provide fast-track resolution of disputes and reduce burden of tenancy disputes from civil courts. <ul style="list-style-type: none"> ○ Disposal of complaint by Rent Court and Rent Tribunal should be within 60 days. • Rent Authorities and Rent Courts will be appointed by District Collector with approval of state government. • State may establish Rent Tribunal in each district after consulting with jurisdictional High Court. • No civil court will have jurisdiction over matters pertaining to provisions under Model Act. <div style="text-align: center;"> <p>Three-Tier redressal System</p> <p>The diagram shows a blue pyramid with three levels. The top level is labeled 'Rent Authority' and contains an icon of a document and a pen. The middle level is labeled 'Rent Court' and contains an icon of a classical building. The bottom level is labeled 'Rent Tribunal' and contains an icon of a scale of justice.</p> </div>
Eviction	<ul style="list-style-type: none"> • To evict a tenant, landlord must apply to the Rent Authority seeking such eviction. Conditions for eviction of tenant include <ul style="list-style-type: none"> ○ refusal to pay agreed upon rent. ○ failure to pay rent for more than two months; ○ occupation of part or whole of premises without written consent; and ○ misuse of premises despite a written notice.



Way forward

- **Balance approach:** To truly open-up the rental market as an evolved one, it is imperative for the Government to formulate a way to balance social welfare of tenants and the economic interests of landlords.
- **Private participation:** Engaging private sectors into affordable renting housing through models like “Build to Rent” and “Rent to Own”.
- **Ensure quality:** There is need for a separate mechanism beyond the Model Tenancy Act that ensures the provision of **safe and good quality rental units for tenants**, while ensuring a fair economic return for homeowners.
- **Uniformity:** Bringing within its ambit the state laws, to bring uniformity in the market and keep a check on rising rental prices.
- **Cooperative federalism:** Land and provision of housing being state subjects, there is need to foster cooperative federalism and bring in all the stakeholders i.e. tenants, owner, and state together.

1.8. ERRATA

- In article 1.1.1. of Mains 365 polity document, Article 26 provides for RTE to every citizen is printed instead of Article 21A provides for RTE to every citizen. The error is regretted.

“You are as strong as your Foundation”

FOUNDATION COURSE GENERAL STUDIES PRELIMS CUM MAINS 2023

Approach is to build fundamental concepts and analytical ability in students to enable them to answer questions of Preliminary as well as Mains examination

- Includes comprehensive coverage of all the topics for all the four papers of GS Mains, GS Prelims & Essay
- Access to LIVE as well as Recorded Classes on your personal student platform
- Includes All India GS Mains, GS Prelims, CSAT & Essay Test Series
- Our Comprehensive Current Affairs classes of PT 365 and Mains 365 of year 2022

ONLINE Students

NOTE - Students can watch LIVE video classes of our COURSE on their ONLINE PLATFORM at their homes. The students can ask their doubts and subject queries during the class through LIVE Chat Option. They can also note down their doubts & questions and convey to our classroom mentor at Delhi center and we will respond to the queries through phone/mail.

Live - online / Offline
Classes

Scan the QR CODE to
download VISION IAS app

DELHI: 30 AUG, 9 AM | 19 AUG, 1 PM | 5 AUG, 9 AM
26 JULY, 1 PM | 17 JULY, 5 PM | 7 JULY, 1 PM

LUCKNOW: 25th Aug | 25th June

AHMEDABAD: 22nd July

PUNE: 20th June

HYDERABAD: 8th Aug

CHANDIGARH: 25th Aug | 21st June

JAIPUR: 16th Aug | 30th July

2. INTERNATIONAL RELATIONS

2.1. INDIA AND SOUTH ASIA

INDIAN LEADERSHIP IN SOUTH ASIA

South Asia is a partly continental and partly sea region. It consists of seven countries: India, Pakistan, Bhutan, Nepal, Sri Lanka, Bangladesh, and Maldives. Some international organisations (e.g., the World Bank) include Afghanistan as well

REPRESENTS



10 per cent of the area of Asian continent



Population of more than 1.65 billion.



Importance of the Region

- ⊖ The rising role and position of India, evidenced by the strengthening of relations with US, active and pragmatic regional strategy with the countries of South Asia, Southeast Asia and East Asia;
- ⊖ Active policy of China towards South Asian countries;
- ⊖ War in Afghanistan and the intervention of US and other countries of the West in Afghanistan after 2001;
- ⊖ India and Pakistan having achieved nuclear capability and signing of the India–United States Civil Nuclear Agreement in 2006, which meant that India was recognised as a nuclear power.
- ⊖ South Asia is widely viewed as a central pillar of the wider Indo-Pacific maritime geography.



Challenges of region

- ⊖ Double crises at Economic and Political front for countries -
 - ✗ India –brewing economic issues such as inflation, currency depreciation and jobless growth.
 - ✗ Sri Lanka's political crisis.
 - ✗ Nepal – Huge External Debt.
 - ✗ Myanmar –Power struggle between the military junta and the elected government.
 - ✗ Bangladesh – It is seeking help from the IMF to ward off a potential economic crisis.
 - ✗ Pakistan - political instability has made it difficult for the leadership to manage the dire economic crisis effectively.
 - ✗ Afghanistan – Taliban's takeover.
- ⊖ Economic Integration - South Asia is of the world's least integrated subregion.
- ⊖ Transport connectivity –
 - ✗ Large volume of trade between India and Pakistan is routed through Dubai.
 - ✗ A container takes at least 30 days to move between New Delhi and Dhaka via circuitous routes, and costs around US\$2500, but by land transport it could reach its destination in about 5- 6 days with around one fourth of the cost.
 - ✗ Growing Chinese influence -China has consistently increased its exports to the region from US\$8 billion in 2005 to US\$52 billion in 2018, a growth of 546%. This, however has come with debt challenges.
- ⊖ Impact of COVID 19 - The South Asia Economic Focus by WB presents a range forecast, estimating that regional growth will fall to a range between 1.8 and 2.8 percent in 2020, down from 6.3 percent projected six months ago.
- ⊖ Climate Change- Rising vagaries of monsoon, melting Himalayan glaciers and Sea level rise.



Way Forward

- ⊖ India to take centre stage –
 - ✗ Strong and effective role in the SA region diplomacy will lead to China's role being reassessed in the region and will help India to take an enhance role at the high table of nations.
- ⊖ Regional connectivity – Realisation of full potential can lead to enhanced trade incomes, establishment of inter-linkage industries across countries and stronger people to people connect. Eg. Jute production from Bangladesh may be effectively used to manufacture gunny bags etc in India so as to replace single use plastic.
- ⊖ Increasing effectiveness of SAARC and SAFTA
- ⊖ Increasing bilateral agreements, strengthening trade relations and enhancing people to people contact.

India's rise as a serious global player today allows it to leverage its role in mobilising multilateral institutions and other major powers to support its neighbours in tiding over the present crisis.

2.2. INDIA-ASEAN

ASEAN AT A GLANCE

India began its formal engagement with ASEAN in 1992 and became a strategic partner in 2012. Recently, Year 2022 was announced as India-ASEAN Friendship Year on account of 30th anniversary of India-ASEAN partnership.



Commodity trade between India and ASEAN region has reached \$98.39 billion.



ASEAN is India's 4th largest trading partner



Significance of ASEAN for India

- ⊖ **Centrality in India's Act East Policy** and SAGAR initiative.
 - ✗ **Economic:** India-ASEAN FTA and India's CECA with various countries of the ASEAN region.
- ⊖ **Common Security Threats:** ASEAN-India Work Plan to combat Transnational Crimes.
- ⊖ **Financial Cooperation** through ASEAN-India Cooperation Fund (AIF), ASEAN-India Green Fund (AIGF) and ASEAN-India Science and Technology Development Fund (AISTDF).
- ⊖ **Connectivity Projects:** India-Myanmar-Thailand Trilateral (IMT) Highway, Kaladan Multimodal Project. Railway link between New Delhi to Hanoi are in pipeline.
- ⊖ **Cultural Cooperation:** Special Training Course for ASEAN diplomats, Exchange of Parliamentarians, etc.
- ⊖ **Defence and Security Cooperation** through Joint Naval and Military exercises.



Challenges faced by India in its dealings with ASEAN

- ⊖ **Conflicts in priorities:** India's opposition to the BRI and its withdrawal from RCEP.
- ⊖ **Skewed trade relations:** ASEAN's share in India's foreign trade and inflows of FDI is higher than India's share in ASEAN's.
- ⊖ **Maritime challenge:** By deepening defence cooperation in the South China Sea, India risks getting embroiled in future maritime conflict between China and one or more ASEAN nations.
- ⊖ **China's influence:** China's ability to sow divisions within ASEAN is against India's economic and security interests in the region.
- ⊖ **Centrality of ASEAN in the Indo-Pacific is under jeopardy** due to inability to counter China, decline in the relevance of the East Asia Summits, and presence of QUAD, AUKUS in the Indo-Pacific.
- ⊖ **Lack of a custodian and strong institutions** for ASEAN
- ⊖ **Divergent interests and priorities of ASEAN members.**



East Asia Summit (EAS)

- ⊖ In the recent EAS, leaders adopted three statements on Mental Health, Economic recovery through Tourism and Sustainable Recovery, which have been co-sponsored by India.
- ⊖ EAS is an **important ASEAN-led frameworks** to further the objectives of regional peace, security and prosperity
- ⊖ **Members:** Ten ASEAN Member States, Australia, China, India, Japan, New Zealand, Republic of Korea, Russian Federation and USA.
- ⊖ **Major contributions by India in the past:**
 - India partnered with Australia on Maritime Security Cooperation
 - India in partnership with Australia and Singapore on Combating Marine Pollution.
 - India announced the Indo-Pacific Oceans Initiative (IPOI) at the 14th EAS.



Way forward to strengthen relations

- ⊖ **Collective dialogue** to promote common interests under ASEAN India Plan of Action.
- ⊖ **Trade facilitation:** Review ASEAN - India FTA, establishing supply chain network under the Indo - Pacific Economic Framework (IIEE).
- ⊖ **Enhancing policy prioritization** for sustainable finance and growth
- ⊖ **Enhancing Maritime Cooperation** through convergence between India's Indo-Pacific Oceans Initiative and the ASEAN Outwork on Indo-Pacific.
- ⊖ **Capitalise in technology**
- ⊖ **Collaborate on energy transition** through initiator like IGA and on world one grid.

Reciprocity and mutual understanding on common concerns will help both ASEAN and India to overcome some of the challenges facing their relationship.

2.3. CHINA PAKISTAN ECONOMIC CORRIDOR (CPEC)

Why in news?

China and Pakistan have decided to invite interested third country to join the CPEC project and are also planning to expand CPEC projects to Afghanistan.

About CPEC Project

- CPEC is a **3,000-km long route of infrastructure projects** connecting Pakistan's Gwadar port in Balochistan to China's northwestern Xinjiang region.
- CPEC is a **part of China's most ambitious project 'Belt and Road Initiative**.
 - The BRI, launched in 2013, aims to link Southeast Asia, Central Asia, the Gulf region, Africa and Europe with a network of land and sea routes.
- It will pave the way for China **to access the Middle East and Africa** from Gwadar Port, enabling China **to access the Indian Ocean** and in return China will **support development projects in Pakistan** to overcome the latter's energy crises and stabilising its faltering economy.
- India has repeatedly registered its protests over CPEC.



India's objections and apprehensions over CPEC

- **Violation of India's Sovereignty and Territorial Integrity:** CPEC is **unilaterally devised** by China and passes through parts of the Union Territories of Jammu & Kashmir and Ladakh which are under illegal occupation of Pakistan.
- **Perception regarding China's motives of strategically encircling India:** Experts believe that the CPEC will evolve China-Pakistan strategic cooperation into a bilateral military alliance against India.
- **Apprehensions about lack of transparency and financial viability:** There is also the apprehension that inability to repay loans will pave the way for Chinese intrusion in the internal affairs of defaulting countries particularly in light of recent Sri Lankan crisis.
- **Possible security implications:** That parts of the road built within the project can potentially act as a transit point for Islamic insurgents such as the East Turkestan Islamic Movement (ETIM).

Why India's stance on BRI projects matters to China?

- India as an **immediate neighbour and an important player in the region** remains very relevant to Chinese neighbourhood policy.
- **Strengthening BRI's legitimacy:** Despite being unilaterally proposed, the BRI is/shall be bilaterally/multilaterally pursued. Taking India on board in discussion is much needed for supporting BRI's legitimacy.
- **Effective achievement of BRI's policy objectives:** The five priority areas of BRI namely, policy coordination, facilitating connectivity, unimpeded trade, financial integration and people-to-people bonds can be better achieved at various levels with Indian cooperation.
- **Global Peace:** An active Indian engagement would promote sustainable relationship which would go a long way in promoting international peace and prosperity.
- **Indian markets are a fertile ground for Chinese investment:** Involving India in the BRI negotiation would help dispel any mistrust that both countries may have against each other.

India's overall approach to China's BRI

- **Active cooperation with its other international partners** to reap the economic benefits of regional connectivity and yet maintain its strategic dominance distinct from China.
 - For example, with Asia-Africa Growth Corridor (AAGC), India and Japan offers a benevolent and rules based alternative to the BRI.
- **Countering China's military rise:** India has strengthened its cooperation with US, Japan, Australia for the Quadrilateral Security Dialogue (Quad) to counter China's rise in the region.

- **Regional and sub-regional cooperation** such as the Bangladesh, Bhutan, India, Nepal (BBIN), and promoting its Neighbourhood First Policy through SAGAR initiative and Project Mausam. Through these, India seeks to **further its strategic aspirations and respond to the growing influence of the BRI.**

Conclusion

Indian Government is of the firm belief that connectivity initiatives must be based on universally recognized international norms. They must follow principles of openness, transparency and financial responsibility and must be pursued in a manner that respects sovereignty, equality and territorial integrity of other nations.

2.4. CHINA-TAIWAN

Why in news?

US Speaker's visit to the island of Taiwan has led to rising tensions over the status of island that China claims as its own and could further strain US-China relations.

Background of China-Taiwan conflict

- Taiwan (earlier known as Formosa) is an **island situated 100 miles from the coast of south east China** separated by the Taiwan Strait.
- Taiwan first came under full Chinese control in the 17th Century when the **Qing dynasty** began administering it. Then, in 1895, they gave up the island to Japan after losing the **first Sino Japanese war.**
- China took the island again in 1945 after Japan lost **World War Two.**
- The communists won after the civil war in China in 1949 and took control in Beijing. Chiang Kai-shek and the nationalist party - known as the **Kuomintang** - fled to Taiwan, where they ruled for the next several decades.
 - China points to this history to say that Taiwan was originally a Chinese province.
 - But the Taiwanese point to the same history to argue that they were never part of the modern Chinese state that was established under Mao in 1949.
- **China exerts considerable diplomatic pressure on other countries not to recognise Taiwan,** or to do anything which implies recognition.
 - Currently, only 13 countries (plus the Vatican) recognise Taiwan as a sovereign country.

What is US policy for Taiwan?

- The island of Taiwan is part of the so-called **"first island chain"**, which includes a list of US-friendly territories that are crucial to US foreign policy.
- The US currently sticks to the **One-China policy,** which recognises only one Chinese government - in Beijing, and with which it has formal diplomatic ties.
 - US has maintained **unofficial relations with Taiwan** and supplies

DID YOU KNOW?

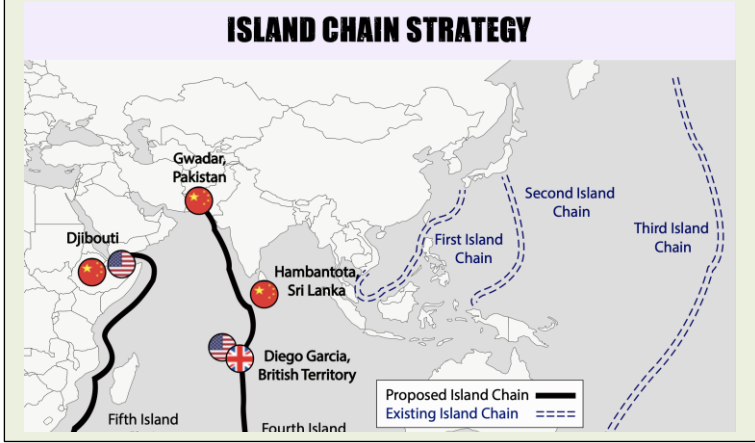
- ⊗ Much of the world's everyday electronic equipment -from phones to laptops, watches and games consoles -is powered by computer chips made in Taiwan.
- ⊗ A single Taiwanese company -the Taiwan Semiconductor Manufacturing Company or TSMC -has over half of the world's market.

One-China Policy

- It is a **policy of acknowledging** that there is only one Chinese government as opposed to separate Chinese states.
- Further under this principle, countries also consider territories of Taiwan, **Tibet, Hong Kong and Xinjiang** to be an inseparable part of mainland China.

First Island Chain

- **First Island Chain** comprises the **Kuril Islands, the Japanese Archipelago, Ryukyu Islands, Taiwan, northwest Philippines** and ending at **Borneo.**
- This chain is the first line of defence and serves as the maritime boundaries between the **East China Sea, Philippine Sea, South China Sea** and the **Sulu Sea.**
 - In this chain are located the **Bashi Channel** and the **Miyako Strait** which are critical chokepoints for China.
- It is a part of **Island Chain Strategy** (refer image) formulated by the US in 1951 to contain the erstwhile USSR and China with a string of naval bases in the western Pacific region to restrict sea access to these two countries.



the island with arms and spare parts to maintain sufficient self-defense capabilities under its **Taiwan Relations Act, 1979**.

- US is by far the **largest arms dealer for Taiwan** and follows a **‘strategic ambiguity’ policy** meant the US has been deliberately unclear about whether or how it would defend Taiwan in the event of an attack.

What is India’s stand on the Taiwan?

- **India has followed the One China policy since 1949**, that accepts **Taiwan and Tibet as part of China**.
- **India does not have formal diplomatic ties with Taiwan**. But since 1995, both sides have maintained representative offices in each other’s capitals that function as de facto embassies.
 - As a part of India’s **Act East Foreign Policy**, Government facilitates and promotes interactions with Taiwan.
 - ✓ For instance, the **India-Taipei Association (ITA)** and **Taipei Economic and Cultural Centre (TECC)** in New Delhi are examples of the exchange.
- **India uses the policy to make a diplomatic point**, i.e., if India believes in **“One China” policy**, **China should reciprocate with “One India” policy**.
 - **India stopped mentioning the policy in official statements and joint declarations after 2008** after China started issuing stapled visas to Indian citizens who were residents of Jammu and Kashmir and Arunachal Pradesh.
 - **However, its engagement with Taiwan is still restricted.**

Related News

- Recently, China marked the 25th anniversary of Hong Kong's return and emphasised Beijing's control over Hong Kong under **One country, two systems (OCTS)**.
- **About OCTS**
 - It was **originally proposed to unify China and Taiwan**, but rejected by Taiwan.
 - The idea resurfaced when **China started talks with Britain and Portugal**, who were governing Hong Kong and Macau, respectively, as colonies.
 - Under this, **China proposed that, Hong Kong and Macau, can have different economic and political systems from that of mainland China, while being part of China.**
 - Both regions **became Special Administrative Regions** of China with their **own currencies, economic and legal systems**,
 - ✓ However, **defence and foreign affairs would be decided by China.**
 - Also, Hong Kong has freedom of assembly and speech, and some democratic rights, which **are not available in mainland China.**
 - ✓ These freedoms are protected by the Basic Law, a mini-constitution that guides relationship between Hong Kong and China.
 - ✓ **Basic law is valid for 50 years, till 2047 for Hong Kong and 2049 for Macau.** But it is **unclear what will happen after this term.**
- **About Hongkong and Macau**
 - British had taken control of **Hong Kong in 1842** after the **First Opium War**. In 1898, Britain and China signed Convention, which allowed the British to take **control of the islands surrounding Hong Kong on lease for 99 years.**
 - Macau, on the other side, had been ruled by the **Portuguese from 1557.**
 - In the 1980s, China initiated talks with both **Britain and Portugal for the transfer of two territories.**
 - Hong Kong returned to Chinese control **in 1997**, and Macau’s sovereignty was transferred **in 1999.**

2.5. INDIA-LATIN AMERICA

INDIA- LATIN AMERICA RELATIONS AT A GLANCE

India and Latin America shared post-colonial history but have barely managed to maintain minimal bilateral ties for the last several decades. However, recently the region is increasingly gaining salience in India's foreign policy.



India's annual trade with Latin America amounts to **US\$50 billion**



Region contributes around **15 percent** of India's energy imports. **Venezuela, Colombia, Mexico, and Cuba** are some important suppliers of oil to India.

OVERALL RELATIONS



Significance of India-Latin America and Caribbean (LAC) relationship.

- ⊖ **Trade:** India's exports to Latin America increased by 48% to reach **18.89 billion dollars in 2021-2022**.
- ⊖ **Investment:** Indian investments in the region are estimated **between US\$ 12 billion to US\$ 16 billion** in value-added sectors such as pharmaceuticals, automobiles, information technology, energy, and power transmission.
- ⊖ **Food and energy security:** Latin America has vast swathes of **fertile land**, Brazil's **cutting-edge food storage technologies**, collaboration with Brazil in **eco-friendly ethanol**.
- ⊖ **Strategic Orientation:** The region is important for India in order to achieve its global ambitions such as in order to pursue its membership of the UNSC, the NSG and at various other negotiations like climate change, terrorism, trade, etc.
- ⊖ **Multilateral cooperation:** **Brazil-Russia-India-China-South Africa (BRICS), South-South cooperation, ISA.**
- ⊖ **Development assistance:** India has recently announced a 14 million US dollar grant for **community development projects** and a 150 million line of credit for solar, renewable energy, and climate change-related projects.



Challenges

- ⊖ **Insufficient diplomatic attention**
- ⊖ **Trade:** India's high tariff on Latin American agricultural goods (more than 5 times that of China's)
- ⊖ **Lack of connectivity:** India has no direct shipping services to this region.
- ⊖ **Lack of sufficient institutional presence**
- ⊖ **Language barriers:** Lack of fluency in Spanish and Portuguese is a major disadvantage for Indian companies, Unfamiliarity with India's ethos burdens Latin American companies in India.
- ⊖ **Competition with China:** China is a largest investor in many LACs. China has direct shipping lanes through Panama canal.



Way forward

- ⊖ **Trade diversification:** LAC exports to India are presently heavily concentrated in extractive products, accounting for 72% of exports.
- ⊖ **Development of financial institutions** to facilitate a joint step forward toward deeper South-South cooperation for a brighter future.
- ⊖ **Promote Latin American studies**, invest in shipping industries, and conclude preferential trade agreements and free trade agreements.
- ⊖ **Revive 'Focus:LAC' programme** to encourage and support Indian exporters to explore business opportunities in the region.

India and Latin America are emerging as major growth engines of the world economy and must reap the mutual benefits of a growing partnership with each other.

2.6. INDIA-MAURITIUS

INDIA-MAURITIUS RELATIONS AT A GLANCE

It's a multi-dimensional relationship that remains embedded in a rich shared past, entwined by culture, democratic values and intimate ancestral ties. Recently, India-Mauritius Comprehensive Economic Cooperation and Partnership agreement (CECPA) entered into force in 2021 which is the first trade Agreement signed by India with a country in Africa.



Bilateral trade stands at USD 786.72 million



India is Mauritius' largest trading partner



Mauritius is the third top source of FDI in India

BILATERAL RELATIONS



Areas of Cooperation

- ⊖ **Bilateral agreements:** Double Taxation Avoidance Convention (1982), Bilateral Investment Promotion and Protection Agreement, Extradition Treaty, Mutual Legal Assistance Treaty in Criminal Matters among others.
- ⊖ **Geo Strategic :** Mauritius has a special place in India's vision of SAGAR, proximity to important sea lines of communications.
- ⊖ **Defense Cooperation:** Offshore patrol vehicle Barracuda, transfer of a Dornier aircraft by India and an Advanced Light Helicopter, Dhruv.
- ⊖ **Cultural & Humanitarian Relation:** Mauritius host large Hindi speaking diaspora, also hosts World Hindi Secretariat.
- ⊖ **Regional Cooperation** through IORA, Indian Ocean Naval Symposium.
- ⊖ **People to People Relations:** Mauritius also called as 'Little India' as nearly 75% population is of Indian Origin.



Challenges in relationship

- ⊖ **China factor:** China's growing presence in Indian Ocean region through BRI and its maritime component.
- ⊖ **DTAA (Double Taxation Avoidance Agreement):** Foreign investors use DTAA to incorporate conduit companies in Mauritius and round-trip their investments in India through Mauritius.
- ⊖ **Agalega Island:** Indian projects on the island caused environmental concerns.
- ⊖ **Climate Change:** Sustainable development & blue economy are existential challenges for Mauritius and other island states.



Way forward

- ⊖ **Revisiting DTAA** to fill gaps within to avoid tax evasion.
- ⊖ **Countering China's hegemony** by deepening the existing ties in various spheres.
- ⊖ **Small Island Developing States(SIDS):** India should work constructively with SIDS for addressing economic, social & environmental vulnerabilities.

As Mauritius weighs its future policy options, both foreign policy and economic, amidst changing regional geopolitics, it is useful for India to pay attention to these crucial aspects of the nation's concerns and its identity as a SIDS.

2.7. INDIA-SOUTH KOREA

INDIA – SOUTH KOREA RELATIONS AT A GLANCE

India-Republic of Korea (RoK) relations has made great strides in recent years and has become truly multidimensional, spurred by a significant convergence of interests, mutual goodwill and high level exchanges.



Annual bilateral trade reached US\$23.7 billion in 2021



India is South Korea's seventh-largest export market



Areas of engagement

- ⊖ **Political**- RoK's open market policies and the New Southern Policy finds resonance with India's economic liberalization, 'Look East Policy', "Act East Policy" and Indo-pacific strategy.
- ⊖ **Economic**- CEPA signed in 2010
- ⊖ **'Korea Plus', to promote and facilitate Korean Investments in India in 2016.**
- ⊖ **Defence and strategic relations**- In 2020, India and South Korea signed a Roadmap for Defence Industries Cooperation.
- ⊖ **Energy** - July 2011 when the Civil Nuclear Energy Cooperation Agreement was signed.



Challenges

- ⊖ **Divergence in national objectives** - There was a clear drift by South Korea away from Quad (the U.S., Australia, India and Japan); meanwhile, India has been actively participating in them.
- ⊖ **Sluggish economic ties**- India and South Korea were trying to upgrade the CEPA agreement, but to no avail.
- ⊖ **Pressure from China** - the current emerging alignment between India and South Korea, which has the potential to bring the two countries closer together, may prove short lived if proper attention is not paid to countering pressure from China.
- ⊖ **Pressure from North Korea** - Any breakout of hostilities on the Korean Peninsula can derail South Korea's Indo-Pacific project.



Significance of SK for India

- ⊖ **Tilt away of South Korea from China** – It is bound to bring new economic opportunities and synergies in other domains like public health, green growth, digital connectivity, and trade.
- ⊖ **Indo-Pacific outlook** - South Korea could be the fourth pillar in India's Indo-Pacific strategy along with Japan, Australia, and Vietnam which can bring about a paradigm shift in India's position and influence in the region.
- ⊖ **Trilateral security dialogue** - The shift in South Korean policies will enable a strong India, South Korea and Japan defence policy coordination that could effectively forge new joint regional security policies.



Way Forward

- ⊖ **Similar Challenges** – Pressure to balance equations between the United States and China, whilst collaborating with other regional powers in South and Southeast Asia.
- ⊖ **Possibility of Maritime Partnerships** - These include shipbuilding, joint capacity building, humanitarian aid and disaster relief, search and rescue, marine pollution, anti-piracy, anti-terrorism and anti-trafficking, and prevention of marine pollution.
- ⊖ **Opportunity for maritime domain awareness (MDA)** – as Indian Navy has also established an Information Fusion Center (IFC) in the Indian Ocean region to increase situational awareness in the maritime commons.
- ⊖ Developing stronger **People to people and cultural relations.**

India can help South Korea withstand Chinese pressure and North Korean threats. An independent, strong, and democratic South Korea can be a long-term partner with India, that will add significant value to India's Indo-Pacific strategy.

2.8. INDIA-GERMANY

INDIA - GERMANY RELATIONS AT A GLANCE

The relationship between India and Germany is firmly rooted in mutual trust, shared values of democracy, rule of law and human rights, and multilateral responses to global challenges. Recently, a German military vessel "Bayern" landed in Mumbai, a remarkable step for Indo-German relations.



Bilateral trade stands at USD 21.07 bn in 2020-21.



Germany is India's largest trading partner in Europe



Germany is the 7th largest FDI source for India.

BILATERAL RELATIONS



Significance of India-Germany ties

- ☉ **Peace in Indo-Pacific:** More than 20% of German trade is conducted in the Indo-Pacific.
- ☉ **Trade and investment:** Germany's role in reviving the India-EU free trade talks i.e. Bilateral Trade and Investment Agreement (BTIA) is crucial.
- ☉ **Skill labour cooperation-** Germany's huge skilled labour shortage in fields of **digitalization and artificial intelligence**, can be fulfilled by India.
- ☉ **Multilateral Engagement:** Germany has supported India's membership bid in the **NSG and UNSC** and the adoption of the **Comprehensive Convention on International Terrorism**.
- ☉ **Development cooperation:** Financial assistance is provided by Germany in the sectors of **energy, skill development, and sustainable urban development**.
- ☉ **Defence cooperation:** **Defence Cooperation Agreement (2006)**, joint exercise in the Gulf of Aden.



Challenges

- ☉ **Perception of Indo-Pacific:** No coherent Indo-pacific strategy.
- ☉ **Trade and investment issues:** Low **Indian investment in Germany**, Lack of **bilateral investment treaties** between the two countries, **Restrictive law** on the export of arms by the Germany.
- ☉ **The slowdown in the German economy post Covid-19** induced lockdown.



Way forward

- ☉ To advance the **common cause of multilateral and rules-based order** in Indo-Pacific, and extend their cooperation to third countries.
- ☉ **Focus on environment sustainability.**
- ☉ **Economic cooperation:** India has to remove various **governance bottlenecks and ensure speedy engagement**. BTIA needs to be concluded.
- ☉ **International Cooperation to make United Nations Security Council and WTO more effective** and to curtail the proliferation of weapons of mass destruction.
- ☉ **Cooperation in global health:** ensuring security of medical supply chains, strengthening global preparedness for health emergencies taking a One-Health-Approach.

Strong partnership between India and Germany has the potential to transform not only the bilateral relationship but also the wider engagement of the European Union with India.

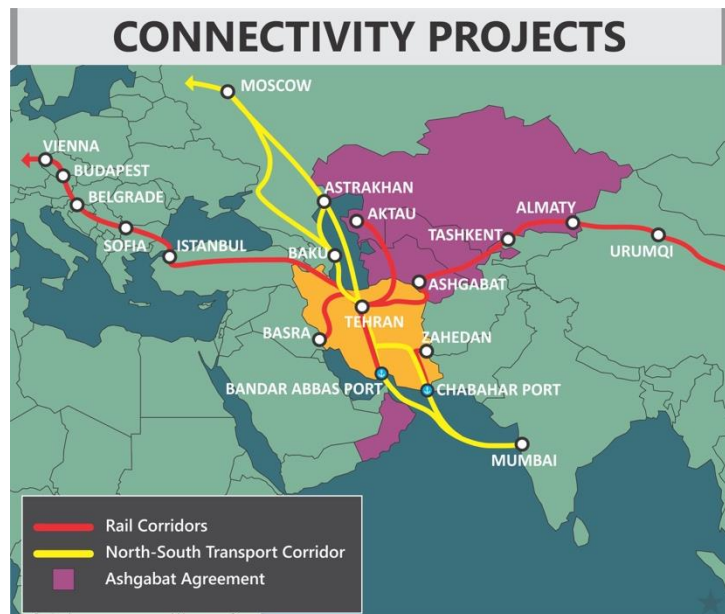
2.9. CHABAHAR PORT

Why in News?

Recently, India observed 'Chabahar Day' where India and Iran reviewed the progress of **Chabahar port and the INSTC transcontinental trade route**.

More about Chabahar Port

- Chabahar Port is **located in Sistan and Baluchestan province** in the Southeastern part of Iran, on the Gulf of Oman.
- It is the **only deep-sea port in Iran with direct ocean access**.
- Its geographic proximity to countries such as Afghanistan, Pakistan, and India, as well as its status as a **key transit center on the burgeoning International North-South Transport Corridor (INSTC)**, gives it the potential to develop into one of the most important commercial hubs in the region.
- **India, Afghanistan and Iran signed a deal to establish the International Transport and Transit Corridor (Chabahar Agreement)** in 2016. This involved construction of a **rail line from Chabahar port to Zahedan** along the border with Afghanistan and linking it to the Zaranj-Delaram Highway, as an **alternate trade route to Afghanistan and Central Asia**.
 - Zaranj-Delaram Highway in Afghanistan is a 215 km long highway that was already built in Afghanistan through assistance provided by India.



Geopolitical significance of the Chabahar port for India:

- **Strengthen Indo-Iranian trade, diplomatic, and military ties**, which could balance out growing Sino-Pakistani cooperation.
- **Establishing a sea-based trade route to Western and Central Asia** via Chabahar port would allow India to **bypass Pakistan** and establish trade networks with the countries in these regions.
 - The Shahid Beheshti port of Chabahar in Iran, built by India and since 2018, it has **played a key role in connecting India with Afghanistan**.
- **Strategic Importance:** This port is just 170 km away from Gwadar port operated by China in Pakistan, hence this port would be of strategic importance to the Indian Navy and defense establishment.
- **Humanitarian Operations:** Chabahar port could be used as a point from where humanitarian operations could be coordinated.
- **Part of Indo-Pacific Strategy:** Chabahar Port is a key element in India's Indo-Pacific strategy that also includes Eurasia's connection with the Indian Ocean Region.
 - ✓ Chabahar Port development **will supplement the Ashgabat agreement** which aims to establish an international multimodal **transport and transit corridor** between **Central Asia and the Persian Gulf**.



Challenges in execution of the Chabahar project

- **Iran's Stand:** In 2020, Iran decided to proceed with the rail line construction on its own, citing **delays from the Indian side in beginning and funding** the project.
- **US sanctions:**
 - India is **hesitant to deal with the construction company** which has links with the **Islamic Revolutionary Guard Corps (IRGC)** and is under the sanctions.
 - Although the project has **secured a special waiver from the USA**, it was **difficult to find equipment suppliers and partners** due to worries of being targeted by the USA.

- **Iran's closeness with China: Proposed Comprehensive Plan for Cooperation between Iran and China' is a 25-year and USD 400 billion strategic partnership deal.**
 - The deal will include **Chinese involvement** in Chabahar's duty-free zone, an oil refinery nearby and possibly a larger role in Chabahar port as well.

Way ahead for India

- **Keeping timelines and delivery of India's commitments** will be the key.
- India needs to play a **balancing act** between the USA and Iran and proactively protect its interest in the region.
- Recently, Uzbekistan also shown interest to jointly use the Chabahar port as a transit port. It will be important to **operationalise and jointly use the port with regional countries**.
- As an emerging power, a **peaceful extended neighbourhood** (Iran-Afghanistan) is **not only good for trade and energy security** but also plays a **vital role in India's aspirations of becoming a superpower**.

INSTC

- INSTC is a 7200 km **multi-modal transportation network**, first envisaged in 2000 by Russia, India and Iran, to promote transportation cooperation among the Member States.
 - INSTC connects **Indian Ocean to Caspian Sea via Persian Gulf onwards Russia** and Northern Europe.
 - **Currently, it has 13 members including India.**
 - Recently, INSTC began operation with the first shipment from Russia to India via Iran.
- **INSTC Significance for India**
 - **Reduce carriage cost** between India and Russia by 30% and **bring down transit time** (almost half compared to suez canal).
 - Will help India to **gain smooth access into Central Asia and beyond to Arctic, Nordic and Baltic region** and will help to expand trade and investment links.
 - **Reduce dependence on current trading partners**, especially energy connectivity, through **realignment of supply chains**.
 - It is also being seen as **India's alternative to China's Belt and Road Initiative (BRI)**.
- **Other Planned Corridors Connecting India with Russia and Europe**
 - **Chennai-Vladivostok Maritime Corridor** connecting India-Russia.
 - **India's Arabian-Mediterranean (Arab-Med) Corridor** connecting India with mainland Europe via Piraeus port of Greece and Middle East.

2.10. BILATERAL COOPERATION FOR CLIMATE CHANGE

Why in news?

India and Denmark agreed to further **strengthen the Green Strategic Partnership, which was initially launched in September 2020** with a focus on green hydrogen, renewable energy and wastewater management.

More about news

- The partnership **focuses on an ambitious implementation of the Paris Agreement and the UN Sustainable Development Goals**.
- Agreements under the partnership include **Smart Laboratory on Clean River Water in Varanasi, Centre of Excellence on Smart Water Resources Management, on Green Shipping and on Dairy etc.**
- This has brought the **focus of tackling climate change by the bilateral front**.

About Bilateral partnership on climate change

- Climate change is a **global emergency that goes beyond national borders**. It is an issue that requires **international cooperation and coordinated solutions at all levels**.
- **Bilateral partnerships** involve a framework of collaboration to catalyse action around the world to reduce the greenhouse gases that are contributing to climate change.
 - It also includes **initiatives for advance energy efficiency, account for greenhouse gas emissions, and collect and measure data to support climate action**.

Other Bilateral partnerships on climate change

- **India-US Climate and Clean Energy Agenda 2030 Partnership** which envisages bilateral cooperation on strong actions in the current decade to meet the goals of the Paris Agreement was launched.
- **India and the United Arab Emirates (UAE)** signed a MoU on Climate Action to establish a framework to facilitate and enhance bilateral cooperation on climate action and contribute towards implementing the Paris Agreement 2015.
- **EU-India Clean Energy and Climate Partnership** to promote access to and dissemination of clean energy and climate friendly technologies.
- **India-Germany Partnership for Green and Sustainable Development**.

Significance of Bilateral cooperation for Climate Change

- Easier to communicate and coordinate
- More binding for both parties than through multilateral mechanisms.
- Effective finance transfer
- Better execution due to trust.
- Sharing of knowledge and technology transfer.

Way Forward

The bilateral cooperation on climate change is often susceptible to the changes in international relations. For instance, the trade war between the US and China has had an impact on the cooperation between the two on environmental policies. There are times when the center of bilateral cooperation between the two countries is no longer the environmental improvement and environmental benefits. Therefore, to strengthen bilateral climate cooperation, countries can:

- Synergies with other on-going programs, for example with EU, UN organizations or development aid, may be sought to complement small budget.
- Increasing public awareness of the significant role being played by bilateral financial institutions (BFIs) in financing climate change projects, particularly in relation to developing and emerging economies so as to increase its uptake amongst nations.
- Research on complementarity between multilateral and bilateral activities for financing mitigation and adaptation in climate change.

Related News- India-Nordic Relations

- Recently, The Prime Minister of India attended the 2nd India-Nordic summit.
 - The Nordic Region consists of Denmark, Norway, Sweden, Finland, and Iceland, as well as the Faroe Islands, and Greenland.
- India-Nordic Relations are based on climate justice and innovation.
 - Nordic countries are leaders in clean technologies, maritime solutions, port modernization, food processing, health, life sciences, and agriculture.
 - One major area of collaboration between the two is the Nordic Sustainable Cities project which supports the Indian Smart Cities Mission.
 - Nordic nations source 63% of their electricity requirements from renewable energy sources.
 - India-Nordic relations are in synergy towards sustained green technology up gradation that ensures climate justice and provides impetus to renewable energy cooperation.
 - India and Nordic countries' strong commitment to upholding and complying with the provisions of the Paris Agreement and advocacy for accelerated efforts toward climate action.

फाउंडेशन कोर्स सामान्य अध्ययन
प्रारंभिक एवं मुख्य परीक्षा 2023
इनोवेटिव क्लासरूम प्रोग्राम

Scan the QR CODE to download VISION IAS app

- प्रारंभिक परीक्षा, मुख्य परीक्षा और निबंध के लिए महत्वपूर्ण सभी टॉपिक को विस्तृत कवरेज
- मौलिक अवधारणाओं की समझ के विकास एवं विश्लेषणात्मक क्षमता निर्माण पर विशेष ध्यान
- एनीमेशन, पॉवर प्वाइंट, वीडियो जैसी तकनीकी सुविधाओं का प्रयोग
- अंतर - विषयक समझ विकसित करने का प्रयास
- योजनाबद्ध तैयारी हेतु करंट ऑरिएंटेड अप्रोच
- नियमित क्लास टेस्ट एवं व्यक्तिगत मूल्यांकन
- सीसेट कक्षाएं
- PT 365 कक्षाएं
- MAINS 365 कक्षाएं
- PT टेस्ट सीरीज
- मुख्य परीक्षा टेस्ट सीरीज
- निबंध टेस्ट सीरीज
- सीसेट टेस्ट सीरीज
- निबंध लेखन - शैली की कक्षाएं
- करंट अफेयर्स मैगजीन

DELHI: 2 AUGUST, 9 AM | 24 JUNE, 1 PM
LUCKNOW: 7 JULY | 9 AM **JAIPUR: 16 AUG | 4 PM**

लाइव/ऑनलाइन कक्षाएं भी उपलब्ध

2.11. NUCLEAR DISARMAMENT

NUCLEAR DISARMAMENT

Concerning trends across the world in the form of Russia-Ukraine war, arms race in South Asia, US-China rivalry over Taiwan, and the challenge that climatic and weather hazards pose have heightened the risk of increased probability of nuclear weapons use. Nuclear disarmament (also called as **denuclearization**) is the **act of reducing or eliminating nuclear weapons** to achieve a **nuclear-weapons-free world (NFWF)**.



Key Treaties for Nuclear Disarmament, Arms Control and Non-Proliferation

- ⊖ **Treaty on the Non-Proliferation of Nuclear Weapons (NPT), 1970:** Only binding treaty to the goal of disarmament by the nuclear-weapon States (NWSs) and to promote cooperation in the peaceful uses of nuclear energy.
- ⊖ **Comprehensive Nuclear-Test-Ban Treaty (CTBT)** bans all nuclear explosions in all environments. It has not yet entered into force.
- ⊖ **Treaty on the Prohibition of Nuclear Weapons (TPNW), 2021:** It is a legally binding instrument with comprehensive set of prohibitions on participating in any nuclear weapon activities.
- ⊖ **Other agreements/groups which seek to prevent the proliferation of fissile material, nuclear weapons and their delivery vehicles:** Nuclear Suppliers Group, the Missile Technology Control Regime, the Hague Code of Conduct against Ballistic Missile Proliferation, and the Wassenaar Arrangement.



India's role in global nuclear disarmament

- ⊖ **India remains committed to universal, non-discriminatory and verifiable nuclear disarmament.**
- ⊖ In 1965, India was among the **Eighteen Nation Disarmament Committee** advocating delinking of disarmament and proliferation.
- ⊖ **India opposes NPT** of it being discriminatory and dividing world into nuclear haves and have nots.
- ⊖ **India opposes CTBT** as it fails to include a commitment by NWSs to eliminate nuclear weapons.
- ⊖ In 2003, India released its own **Nuclear Doctrine** comprising of **credible minimum deterrence, no first use, Non-use of NWs against Non NWSs, NWs free world and Nuclear retaliation to inflict unacceptable damage.**
- ⊖ **India opposes TPNW** as it is not a comprehensive instrument on disarmament.
- ⊖ **India supports Fissile material cut off treaty** which is proposed in **Conference on Disarmament** to prohibit the production of two main components of nuclear weapons: highly enriched uranium (HEU) and plutonium.



Challenges in Nuclear Disarmament

- ⊖ **Lack of consensus among major nuclear powers:** USA withdrew from the **Intermediate-Range Nuclear Forces (INF) Treaty**, Uncertainty over continuation of **Further Reduction and Limitation of Strategic Offensive Arms (New START) treaty between US and Russia.**
- ⊖ **Non-compliance of each nuclear-weapon state with the NPT.**
- ⊖ **Modernization of weapons.**
- ⊖ **Unsettled international security environment :** U.S. withdrawal from the Joint Comprehensive Plan of Action (JCPOA); Iran rebuilding its enrichment program, Turkey's aspirations of being nuclear power among others.
- ⊖ **Emergence of new and dual use technologies including** offensive cyber, counter-space, and hypersonic weapons — could further destabilize the security environment.
- ⊖ **Breakdown in international diplomacy over the Ukraine invasion** enabling other states to move away from non-proliferation and disarmament.



Way ahead

- ⊖ **Role by major nuclear powers:** **USA and Russia** must extend New START treaty to 2026 and prevent nuclear proliferation.
- ⊖ **Adhering to the TPNW:** It will make a strong contribution to the NPT's Article VI obligation for states-parties to pursue nuclear disarmament.
- ⊖ **Encouraging peaceful uses of nuclear energy in sectors like** climate change, human health, and sustainable development.
- ⊖ **Creation of more nuclear-weapon-free zones by NWSs.**
- ⊖ **Denuclearization:** Based on the above-mentioned efforts, a convention on the complete prohibition of nuclear weapons could be negotiated.

As long as nuclear weapons exist, nuclear deterrence will remain a possibility and even the actual use of such weapons cannot be discounted. Only a full elimination of nuclear weapons, "final and complete nuclear disarmament," might provide a guarantee against this eventuality.

2.11.1. NUCLEAR NON-PROLIFERATION TREATY (NPT)

Why in news?

Recently, NPT's five-year review meeting took place.

More on news

- NPT completed 50 years in 2020.
- NPT's five-year review was supposed to take place in 2020 but was delayed because of the COVID-19 pandemic.

About NPT

- The treaty was signed in 1968 and entered into force in 1970.
- **Objectives:**
 - To prevent the spread of nuclear weapons and weapons technology,
 - To promote cooperation in the peaceful uses of nuclear energy and
 - To further the goal of achieving nuclear disarmament and general and complete disarmament.
- It is described as the “**cornerstone of global nuclear non-proliferation and disarmament**” and it is among the most widely-adhered-to global treaties.
- The Treaty represents **the only binding commitment in a multilateral treaty to the goal of disarmament** by the nuclear-weapon States.
- The treaty **defines Nuclear-Weapon States (NWS)** as those that have built and tested a nuclear explosive device before 1 January 1967; these are the United States, Russia, the United Kingdom, France, and China.
 - Four other states are known or believed to possess nuclear weapons: India, Pakistan, Israel and North Korea.
- **All countries of the world except the above four are parties to the NPT.**
- **NPT Review Conference is held every five years** to review the operation of the treaty and consider means to strengthen it.
- The International Atomic Energy Agency (IAEA) **verifies Non NWS (NNWS) compliance with commitments under the NPT** not to acquire nuclear weapons.
 - **Article III** requires NNWS to conclude agreements with the IAEA to safeguard all nuclear materials in all peaceful nuclear activities.

India's stand on NPT

India continues to attach high priority to and remains committed to universal, non-discriminatory and verifiable nuclear disarmament. Accordingly,

- **India has not signed or joined the NPT** due to the regime's discrimination in favour of the five original nuclear weapons powers and divides the world into nuclear haves and have nots.

About IAEA

- It was **founded in 1957 to promote nuclear cooperation** and the safe, secure and peaceful use of nuclear technologies.
- It is a **specialized agency integrated within the United Nations system** but through its own international treaty “The Statute of the IAEA”.
- It has **three main roles:**
 - **Furthering peaceful uses of nuclear energy** in science, especially for the critical needs of developing countries;
 - **Promoting nuclear safety and security** for nuclear and radioactive materials in civilian use;
 - **Verifying in more than 900 civilian facilities** that nuclear materials are not used in making nuclear weapons.

Achievements of NPT

- **Reduction in number of nuclear weapons:** From a peak of 70,300 warheads in 1986 to around 14,000 at present, with the US and Russia accounting for over 12,500.
- **Successfully prevented proliferation around the world:** Since 1970, only four countries have acquired nuclear weapons, bringing the total number of nuclear-weapon-states to nine.
- **Additional Protocol for detection:** The treaty facilitates cooperation on peaceful applications of nuclear technology under the watch of the IAEA.
 - It has helped make the nuclear inspections in the Iran nuclear deal much more effective and in years ahead with North Korea.
- **Creating nuclear weapon free zones:** Additionally, the states of many regions of the world have chosen to be part of nuclear-weapon-free zones in strong demonstration of their commitment to the objective of a world without nuclear weapons.

Challenges to effective implementation on NPT

- **Non-compliance of each nuclear-weapon state with the Treaty:** These include:
 - **Increases in arsenal sizes** (Russia, China), or raising the cap on the maximum number of warhead (UK),

Stockholm International Peace Research Institute (SIPRI), 2022 report highlights on Nuclear weapons proliferation

- While absolute numbers of nuclear arsenal have reduced, they are **expected to grow over the next decade.**
- **Russia and the USA together possess over 90%** of all nuclear weapons.
- Nine nuclear-armed states including India continue to modernize their nuclear arsenals.

- **Fuelling a new nuclear arms race** by spending billions on nuclear weapons each year, including building new and more dangerous weapons systems (United States, Russia, China, France, UK).
- **Failing to pursue negotiations** in good faith to end the nuclear arms race and for nuclear disarmament (United States, Russia, China, France, UK).
- **Unsettled international security environment:** U.S. withdrawal from the Joint Comprehensive Plan of Action (JCPOA); tensions escalating between Saudi Arabia- Iran; Turkey’s aspirations of being nuclear power; U.S.-North Korea negotiations at a halt, may polarise nations to adopt the path of nuclear proliferation.
- **Loopholes in the treaty:** NPT does not forbid a non-weapon state from possessing nuclear weapons (It forbids the acquisition, but in theory country with weapons could sign the NPT as a non-weapon state and not give up weapons already made).
 - The treaty has **no sanctions for violators or for withdrawal from the treaty.**
- **Emergence of new technologies:** New technologies and types of weapons — including offensive cyber, counter-space, and hypersonic weapons — could further destabilize the security environment.
- **Breakdown in international diplomacy over the Ukraine invasion** is also enabling other states to move away from non-proliferation and disarmament.
- **Formation of Military groupings:** The proposal to allow Australia, a non-nuclear weapon state, to acquire nuclear submarines under the **AUKUS arrangement has a potentially negative impact on non-proliferation efforts.**

Way Ahead

- **More stakes on USA and Russia:** They could help themselves by agreeing to extend New START (Strategic Arms Reduction Treaty). It would be useful to engage China in strategic stability discussions as well.
- **Adhering to the TPNW:** It will make a strong contribution to the NPT's Article VI obligation for states-parties to pursue nuclear disarmament.
- **Encouraging peaceful uses of nuclear energy:** All NPT parties must work to ensure continued access to them in a safe and secure manner, and without increasing the risk of nuclear proliferation.
- More regions in the world (preferably comprising NWS) should enter into an arrangement of establishing **Nuclear-weapon-free zones.**

2.12. UPDATES

I2U2	<ul style="list-style-type: none"> ● The Prime Minister of India participated in the inaugural virtual summit of four-nation grouping I2U2 (India, Israel, United Arab Emirates, and United States). ● United Arab Emirates (UAE) announced to invest USD 2 billion in India to develop Food Parks across the country. ● Grouping declared to support "hybrid renewable energy project" in Gujarat, consisting of 300 megawatts (MW) of wind and solar capacity. <p><i>For more details on I2U2, kindly refer to Article 2.6.1 in IR Mains 365 2022.</i></p>
India-Maldives	<ul style="list-style-type: none"> ● Upgrading strategic partnership between two nations, India and Maldives signed six agreements including cooperation in the area of cyber security, disaster management, social housing etc. to maintain stability in the Indian Ocean Region. ● India also announced a US\$ 100 million fresh line of Credit for the Greater Male Connectivity Project. ● Both nations also agreed to strengthen ties to fight transnational crimes and terrorism. <p><i>For more details on India-Maldives, kindly refer to Article 1.10 in IR Mains 365 2022.</i></p>
Indian Diaspora	<ul style="list-style-type: none"> ● As per the RBI study, <ul style="list-style-type: none"> ○ US overtakes UAE to become the top remittance source for India accounting for 23% of total remittances in 2020-21. ○ Share of remittances from Gulf Cooperation Council (GCC) region in India’s inward remittances declined. ● Reason for shift <ul style="list-style-type: none"> ○ Compositional shift in India's migration towards advanced economies i.e., in the U.S., U.K., Canada, and South Africa, dominated by high-skilled white-collar workers. ○ Migration from India to the GCC countries slowed in the last five years due to economic slowdown.

	<ul style="list-style-type: none"> ✓ The sluggish oil prices, stricter labor laws, higher work permit renewal fees, and taxes in Gulf countries. ✓ Gulf countries that are trying to diversify away from oil revenue are favoring their citizens in employment instead of migrants. <p><i>For more details on Indian Diaspora, kindly refer to Article 5.6.1 in IR Mains 365 2022.</i></p>
India-Africa	<ul style="list-style-type: none"> • Union Minister for Commerce & Industry emphasizes Need for India-Africa Trade and Investment Agreement (IATIA) under African Continent Free Trade Area (AfFTA). • India also plans to strengthen its partnership with Africa in four areas: Solar power, Defence trade and military exchanges; Physical & digital infra, IT/Consultancy & Project Exports; and Healthcare & pharma. • Other Initiatives to strengthen the relations include Programme for Infrastructure Development in Africa (PIDA) in partnership with AfDB, The Asia-Africa Growth Corridor and 'Focus Africa' Programme' by India. <p><i>For more details on India-Africa relations, kindly refer to Article 2.7 in IR Mains 365 2022.</i></p>
Russia-Ukraine War	<ul style="list-style-type: none"> • Russia and Ukraine agreed to resume grain exports from Black Sea ports (Odessa, Chernomorsk and Yuzhny) as part of a deal negotiated by United Nations and Turkey. <ul style="list-style-type: none"> ○ The deal makes provisions for the safe passage of ships and is significant to ease global food insecurity and facilitates Russia's export of fertilisers essential for ensuring future high yields on crops and bring down food prices. <p><i>For more details on Russia-Ukraine War, kindly refer to Article 5.3 in IR Mains 365 2022.</i></p>
WTO	<ul style="list-style-type: none"> • The G33, African Group and the ACP (African, Caribbean and Pacific) group including India submitted a joint proposal to the WTO to reform the methodology on Food Subsidy calculation. <ul style="list-style-type: none"> ○ WTO mandates that a WTO member country's food subsidy bill should not breach the limit of 10 percent of the value of production, based on the External Reference Period (ERP), under the Agreement on Agriculture. ○ ERP is the average price based on the base year 1986-88. • Countries suggested a new methodology to calculate the subsidies by either accounting for excessive inflation in the External Reference Price (ERP) or calculating the ERP based on the last five years excluding the highest and the lowest entry for that product. <ul style="list-style-type: none"> ○ They also proposed th.at exports of food grain from public stocks be allowed for international food aid and humanitarian purposes for the needy countries. <p><i>For more details on WTO, kindly refer to Article 4.4 in IR Mains 365 2022.</i></p>



ABHYAAS

MAINS 2022

ALL INDIA GS MAINS

MOCK TEST (OFFLINE)

GS-1 & GS-2
27 AUGUST

GS-3 & GS-4
28 AUGUST

- 📍 All India Percentile
- 📍 Closely aligned to UPSC pattern
- 📍 Concrete Feedback & Corrective Measures
- 📍 Available in **ENGLISH / हिन्दी**

Register at:
www.visionias.in/abhyaas



Ahmedabad | Aizawl | Bengaluru | Bhopal | Bhubaneswar | Chandigarh | Chennai | Coimbatore | Dehradun | Delhi | Ghaziabad | Gorakhpur | Guwahati | Hyderabad | Imphal | Indore | Itanagar | Jabalpur | Jaipur | Jammu | Jodhpur | Kanpur | Kochi | Kolkata | Lucknow | Ludhiana | Mumbai | Nagpur | Noida | Patna | Prayagraj | Pune | Raipur | Ranchi | Rohtak | Shimla | Thiruvananthapuram | Varanasi | Vijayawada | Visakhapatnam

3. ECONOMY

3.1. LABOUR REFORMS, EMPLOYMENT AND SKILL DEVELOPMENT

LABOUR LAW REFORMS AT A GLANCE

Labour Laws are a body of laws, administrative rulings, and precedents which address the legal rights of, and restrictions on, working people and their organizations. They fulfill three major roles:



Redistribution of legal powers between workers and employees.



Facilitation of individual and collective employment relationships.



It serves as a reminder and guarantee of fundamental principles and rights at work.



Need for reform and codification of India's Labour Laws

- ⊕ Labour laws are **highly complex** and overlapping in nature and also **very high in number**.
- ⊕ **Poor enforcement** of laws due to delays in referral, disposal and implementation of awards in cases.
- ⊕ **Constrained growth** of firms with high administrative burden and lack of an easy exit option.
- ⊕ It is indirectly **promoting more capital-intensive industries**.
- ⊕ A **large number of unions** within an establishment negatively impact **collective bargaining rights of workers**.
- ⊕ **Inadequate coverage** of workers **aggravates social issues like poverty**.



Potential effect of Labour Code on these issues

- ⊕ It has **extended the coverage to more categories of workers and establishments**.
- ⊕ It **guarantees timely minimum pay to all** with provisions like National Minimum Wage.
- ⊕ It **facilitates growth of firms along with job creation** by increasing the permission threshold before closure, lay-off, or retrenchment to 300 workers.
- ⊕ **Improves labour administration** through web-based inspections and compounding of offences in certain cases.
- ⊕ It increases **protection of contract labourers rights** by increasing responsibilities of the contractor.
- ⊕ It provides **recognition to negotiation unions** with 51% membership.
- ⊕ Easing the process for entrepreneurs with '**one labour return, one licence and one registration**' policy.



Issues and concerns against the new consolidated codes

- ⊕ **Universal minimum wage is very low** and can lead to the process of **labour cheapening**.
- ⊕ Unnecessarily **wide jurisdiction of the government** in certain cases.
- ⊕ **Over-delegation of legislation** leading to bypassing of legislative scrutiny in some laws.
- ⊕ The central and the state government have **wide discretion in providing exemptions** from these codes.
- ⊕ **Overlap between the definitions** of gig workers, platform workers and unorganized workers.
- ⊕ Certain code like social security and occupational safety do not apply to all the workers.
- ⊕ Other emerging challenges like dealing with new kind of workforce like "crowd-work" or "on-demand" work.



Other steps that could have been taken

- ⊕ National Commission on Labour (NCL) (2002) had **recommended a separate law for small scale units**.
- ⊕ Standing Committee on Labour (2020) recommended that the Code on security should **provide a framework for achieving universal social security**.
- ⊕ NCL recommended a system of **labour courts, lok adalats and Labour Relations Commissions (LRCs) as the integrated adjudicatory system** in all labour matters.
- ⊕ ILO (2016) highlighted that restricted use of fixed term and ad-hoc contract workers in the total workforce could prevent their over-exploitation.
- ⊕ NCL recommended that a **specific provision may be made to enable workers in the unorganized sector to form trade unions**.

3.1.1. DEMOGRAPHIC DIVIDEND

Why in news?

According to the 'Youth in India 2022' report India's favorable demographic dividend is at an inflection point of sorts, with the population share of the youth starting to taper off.

About demographic dividend

- The demographic dividend is the **economic growth potential that can result from shifts in a population's age structure**, according to the United Nations Population Fund (UNFPA).
- A country enjoys demographic dividend when it **has higher working-age (15 to 64) population than non-working**.
 - Having a relatively larger working-age population is called as **first demographic dividend**.
 - The stage of economic growth from maturing working-age population savings for financial security is called as **second demographic dividend**.

Key initiatives to tap the demographic dividend

- **National Youth Policy, 2014 (NYP-2014):** It focuses on education, employment and skill development and entrepreneurship.
- **Skill India Mission:** It has introduced common norms for skills, competencies, occupational standards, and training activities through a National Skills Qualification Framework (NSQF) and Sector Skill Councils (SSCs).
- **Start-up India:** The government is providing an enabling environment, access to finance and facilitating the incubation of start-ups.
- **Women centric approach:** Special provisions to incentivise female employment such as MGNREGA, PMEGP, MUDRA.

Advantages of the Demographic Dividend

Though **not automatic**, it provides a window of opportunity for accelerating economic growth by:

- **Increased economic productivity** due to **increased labour force**.
- **Increased fiscal space** allowing for a reallocation of funds from spending on children to infrastructure investment.
- The **savings rate increase** as the working-age is also the optimal time for saving.

Way ahead to reap the benefits of demographic dividend

- **Investments in human capital:** Evidence suggests that the average return rate for an additional year of schooling contributes to a 10% increase in income per individual.
 - **Curriculum planning and competency mapping** relevant to employability.
 - **Increasing corporate investment in employee education and training.**
 - **Expanding community-based services** such as home visiting.
- **Promoting low skilled jobs:** It will create employment opportunities in agriculture and manufacturing. In the past similar strategy was adopted by Japan and China also.
- **Adequate regulation of Gig economy** to ensure these workforce have social security, insurance or medical facilities, and job certainty.
- **Geographically decentralised growth:** With schools as centres of skill-learning, and startups as a foundation of future job creation, it is equally important to move beyond a handful of urban clusters and look at Tier 2, Tier 3 cities and rural areas.
- **Enhance female labour force participation:** There is a need to recognize women's contribution to their families to **address the time burden barrier** to female participation.

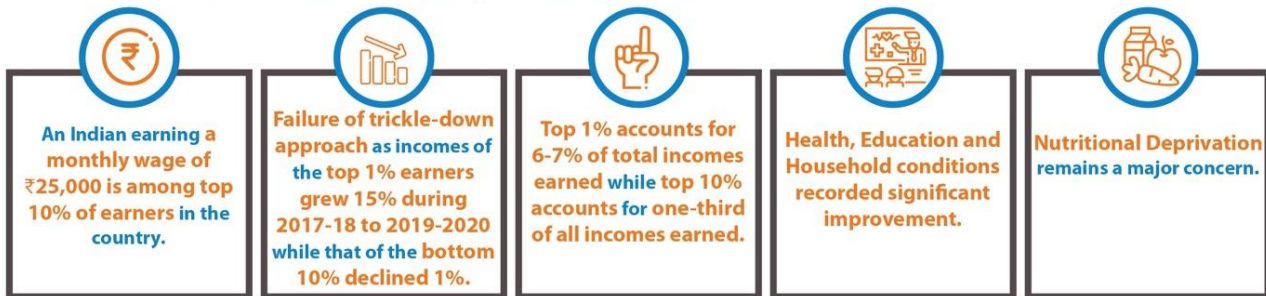


3.2. POVERTY AND INCLUSIVE GROWTH

3.2.1. INEQUALITY IN INDIA

INEQUALITY IN INDIA AT A GLANCE

Based on data from Periodic Labour Force Survey (PLFS), National Family and Health Survey (NFHS) and UDISE+, The State of Inequality in India Report found that:



Major forms of Inequality

- ⊖ **Economic Inequality** majorly manifesting in inequality of income.
- ⊖ **Social Inequality** is when resources in a society are unevenly distributed.
 - This includes Treatment and responsibility inequality manifesting in Gender Inequality.
- ⊖ **Political Inequality** is structured differences in the distribution of political resources.



Persisting Challenges

- ⊖ **Poor state of agricultural economy** in India. (About 4 in every 10 workers are employed in Agriculture.)
- ⊖ **Stagnancy in the growth** of Manufacturing Sector.
- ⊖ **Unemployment and Underemployment** and the consequent low productivity of labour.
- ⊖ **Inflation:** During inflation, few profit earners gain and most wage earners lose.
- ⊖ **Prevalence of systematic discrimination** based on caste, gender among others.



Steps taken

- ⊖ **To reduce Economic Inequality:** Taxation Reform, Subsidies and Transfers, Protection of Property Rights, and improvement in income distribution.
- ⊖ **To reduce Social Inequality:** Positive discrimination via reservation, equal access to basic services among others.
- ⊖ **To reduce political inequality:** Encouraging participation of women, SC and ST communities in the political sphere.



Way Forward

- ⊖ Encourage regular exercises like the **Foundational Learning and Numeracy Index and Ease of living Index** for stock taking of overall well-being.
- ⊖ **Equitable access to education and creation of more jobs** with long-term growth for upward mobility among poor.
- ⊖ Allocate **larger percentage of the expenditure towards social services and social sector.**
- ⊖ Establish airtight slabs that **make class-based distinctions clearer** to trace movement within a class and in and out of the class.
- ⊖ **Raising minimum income and introducing universal** basic income can reduce Income Gap.
- ⊖ **Urban equivalent of schemes like MGNREGS** that are demand-based and offer guaranteed employment should be introduced.

3.2.2. URBAN POVERTY

URBAN POVERTY AT A GLANCE

Urban poverty is a form of poverty that is particularly visible in megacities, characterized by poor living circumstances and income, as well as a lack of essential utilities and a bad quality of life. The government aims for:



Current Situation

- ⊖ Important centers of economic activity, they contribute nearly **65% of India's GDP**.
- ⊖ Lack of Affordable Housing with **greater urban poor deprivation in sanitation and infrastructure**.
- ⊖ **17% of urban** households (13.75 million in numbers) are **slum dwellers** (as per the Ministry of Housing and Urban Poverty Alleviation).
- ⊖ **Increasing inequalities** between rich and poor; leading to **Ghettoization** of communities and rise in crimes.
- ⊖ **Growing Anti-immigrant sentiments**, leading to demands for local reservations.
- ⊖ **Growing Economic Distress and Desperation** due to reduced household incomes.



Persisting Challenges

- ⊖ **Continued migration pressure** with urban population to exceed 590 million people by 2030 due to **Urban-pull and Rural-push factors**.
- ⊖ **Lack of Opportunities and Formal Skilling** due to missed manufacturing phase and shortage of skilling infrastructure.
- ⊖ **Higher urban inflation** with greater impact of pandemic induced disruptions due to market shutdowns, social distancing norms at workplace etc.
- ⊖ **Low Female Labor Force Participation** at 25.1% in June 2020 to July 2021 (PLFS).
- ⊖ **Limited devolution of powers, functions and finances** to urban local bodies.



Steps taken

- ⊖ **National Urban Livelihood Mission (NULM)** to reduce poverty and vulnerability through gainful self-employment and skilled wage employment.
- ⊖ **Smart cities mission** to develop smart, citizen friendly and sustainable cities.
- ⊖ **Atal Mission for Rejuvenation and Urban Transformation (AMRUT)** to provide basic services to households and build amenities in other cities for improved quality of life.
- ⊖ **Pradhan Mantri Awas Yojana (Urban)** for Housing for All by 2022.
- ⊖ **Jal Jeevan Mission (Urban) and Swachh Bharat Mission (Urban)** for universal drinking water supply and sanitation facilities respectively.
- ⊖ **Heritage City Development and Augmentation Yojana (HRIDAY)** for integrated, inclusive and sustainable development of cities.



Way forward

- ⊖ **Empowerment of Local Leadership** (e.g. Mayor) for more localized economic and social planning.
- ⊖ **Address Structural Issues of Economy** which leads to lack of economic opportunities, low productivity and unemployment.
- ⊖ **Modernization of Agriculture** and bringing **Industrialization to Rural Areas** for decongestion of cities.
- ⊖ **Promotion of Entrepreneurship** with improved **financing and Vocational Education and Training infrastructure**.
- ⊖ **Promotion of SHGs and Gender Equality** to eliminate all forms of poverty.
- ⊖ **Bringing New Urban Agenda** with explicit inclusion of culture in the urbanization process to re-humanize cities and have people-centered societies.

3.2.3. DIRECT BENEFITS TRANSFERS

DIRECT BENEFIT TRANSFER (DBT) AT A GLANCE

Direct Benefit Transfer (DBT) is a Government of India programme launched on 1st January, 2013 to directly transfer the rightful subsidy to the underprivileged with aim of:



Reforming the government delivery system by re-engineering the existing process in welfare schemes for simpler and faster flow of information/funds;



Ensuring accurate targeting of the beneficiaries, de-duplication and reduction of fraud.



Current Situation

- ⊖ Universalized in 2015, the DBT programme is applicable on all **Central Sector (CS)/ Centrally Sponsored Schemes (CSS)**.
- ⊖ It is also applicable to **other schemes** where **components of cash** are transferred to individual beneficiaries.
- ⊖ Presently, DBT has onboarded **315 Schemes from 53 Ministries/ Departments**. E.g. LPG subsidy, student scholarships etc.
- ⊖ **Significant role in Social Protection** response to the COVID-19 pandemic.



Steps taken

- ⊖ **Creation of DBT Mission** under erstwhile Planning Commission; now placed in Cabinet Secretariat under Secretary.
- ⊖ **National Automated Clearing House - Aadhaar Payment Bridge System (NACH-APBS)** to directly transfer money into targeted bank account.
- ⊖ Use of **JAM i.e. Jan Dhan, Aadhaar and Mobile trinity** as DBT enables with over 43 crore Jan Dhan Account, over 131 crore Aadhaar and over 114 crore Mobile connections.
- ⊖ **Increased use of modern technology and IT tools** to achieve 'Maximum Governance Minimum Government'.



Challenges

- ⊖ **Privacy concerns** due to stress on Aadhaar despite not being mandatory and lack of **Data Protection Law**.
- ⊖ **Inadequate Development of the Banking Infrastructure**, especially in rural areas due to viability concerns, leading to issues in cash withdrawal.
- ⊖ **Inadequate Digital Infrastructure** with issues of network failures, biometric authentication failures etc.
- ⊖ **Lack of financial education** with risks of exclusion of beneficiaries due to **inoperative Jan Dhan accounts** or no bank account of beneficiary.
- ⊖ **Ensure equal benefits of DBT transfer** within family due to gender inequality



Way Forward

- ⊖ **Bring Data Protection Law** to infuse confidence in privacy and no misuse of data.
- ⊖ **Strengthening of banking infrastructure** to enable the beneficiaries to withdraw money credited in account from branch/ATM/BC Agents.
- ⊖ **Create a robust Digital Infrastructure** for last-mile connectivity to overcome transaction failures and overcoming the petty corruption/fraud.
- ⊖ **Enhance financial education** to ensure that beneficiary is aware of DBT benefits, money transfer and its use.
- ⊖ **Providing Discretionary Powers** to local authorities to ensure no deserving beneficiary is left out, bringing efficiency, effectiveness, transparency and accountability in the system.

3.3. FISCAL POLICY AND RELATED NEWS

3.3.1. CASH ECONOMY

Why in News?

On 08 November 2021, demonetisation marked its five years- date on which **currency notes of ₹500 and ₹1000** ceased to be legal tender in India in 2016.

Cash Economy and why people prefer Cash

Cash Economy is defined as ‘an economic system, or part of one, in which financial transactions are carried out in cash (currency or coins), rather than instruments like cards (debit and credit cards), bank transfer etc.’ The preference for cash stems from following reasons-

- **Large informal economy in India** creates preference for cash mode of transaction from **socially vulnerable citizens**, such as poor or low-income and elderly people; and informal businesses.
- **Simple and reliable form of payment** as it serves as a **legal tender across India** (state-guaranteed means of payment to the general public).
- **Ensuring freedom and autonomy** as it doesn't involve third party and can be used easily even without internet or electricity with **no extra processing, protecting Right to Privacy** as well.
- **Fast and secure** as payments can be made instantly with no risk of cybercrime, digital frauds or financial risks for the payer and payee.

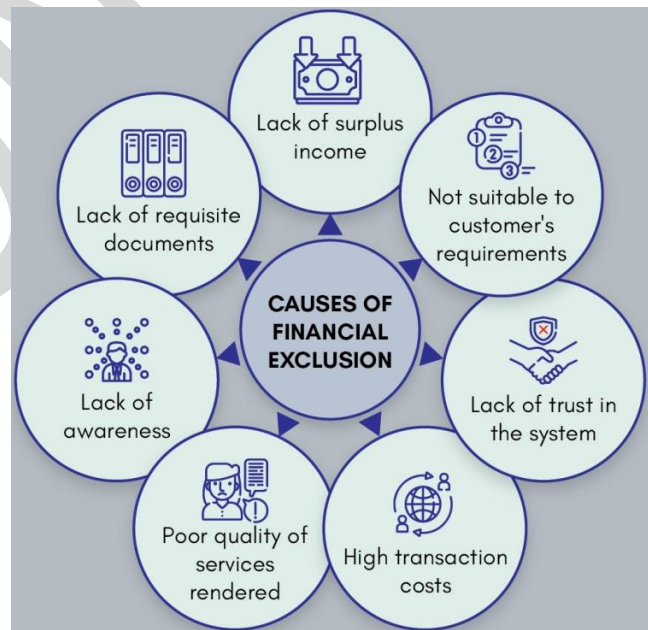
But increasing digitization, development of an online world and increasing global and local interconnectedness are pushing towards the idea of a cashless society.

Advantages of moving towards a cashless society

- **Financial Inclusion** of people excluded by conventional banking practices through technology.
 - For example, encouragement to cashless economy would **minimize the leakages in the Direct Benefit Transfer (DBT) mechanisms**.
- **Discouraging Black Economy growth** by moving to a more transparent and traceable cashless mode of transactions.
- **Curtailing use of counterfeit notes** as well as the funds spent by RBI on currency security features update and awareness among people on genuine notes.
- **Lowered cost of currency printing and transactions** with less time and cost of handling, storing, and depositing paper money.

Challenges in transition from to a Cashless Economy

- **Limited Awareness** as parts of India still continue to remain unbanked and remain unaware vis-à-vis the financial developments such as adoption of UPI, mobile banking etc.
- **Poor financial literacy**. According to National Centre for Financial Education, **only 27% of Indians are financially literate**.
- **Limitations** in relation to **Safe and secure infrastructure** due to cyber-attacks and digital frauds.
- **Challenges associated with** alternative forms of payment like **cryptocurrencies and other virtual currencies** (non state-guaranteed means of payment).
- **Low availability of financial services** as the **Financial Inclusion Index (FI-Index)** of India was **56.4** by March 2022 (released by RBI with **access, usage and quality** as sub-indices).



Steps for Gradual Progression from Cash Economy to Cashless Economy

- **Creating an Integrated Payment Regulatory Ecosystem** to ensure smooth transition centered on a safe, fast and cost efficient payment system.
- **Broadening and deepening of the financial system** through increased financial literacy and financial inclusion; promoting **habit of saving money, formal credit avenues, integration of under-privileged sections** in economy and **Plugging gaps/leaks in subsidies/welfare programs**.
- **Create Enabling Infrastructure** such as high speed internet and telecommunication networks in rural areas for wider reach of appropriate technology to the general public.
- **Ensure state-guaranteed means of payment** to maintain competition and system efficiency.

3.3.2. FIVE YEARS OF GOODS AND SERVICES TAX (GST)

GOODS AND SERVICES TAX (GST) AT A GLANCE

GST is a comprehensive, multi-stage, destination based single domestic tax on the consumption of goods and services. Key targets of GST include-

 <p>Establish One Nation, One Tax, One Market regime.</p>	 <p>Budgeted GST revenue of ₹7.80 trillion for FY23.</p>	 <p>GST brings highest share among all tax revenues including Corporation Tax.</p>
---	--	--



Achievements of GST

- ⊖ Increased tax base from 63.9 lakh in 2017 to 1.38 crore in 2022.
- ⊖ Increasing monthly average collections from ₹1.04 lakh crore in 2020-21 to ₹1.24 lakh crore in 2021-22.
- ⊖ Highest ever GST collection at ₹1.68 lakh crore (April 2022).



Benefits of GST

- ⊖ Promote economic federalism through the GST Council.
- ⊖ Uniformity of tax rates and structures with removal of cascading effect of taxes.
- ⊖ Ease of Doing Business through simplification of business processes and electronic tax filings.
- ⊖ Real-time data reporting, allowing tax administrators to monitor tax compliances and potential revenue leakages.
- ⊖ Reduced logistics cost through e-way bill system, removing the archaic check-posts etc.



Challenges

- ⊖ Limited impact on GDP due to persistent economic issues since its launch. E.g. trade wars, pandemic, Russia-Ukraine war etc.
- ⊖ Centre-State Tussle over GST rates, GST Compensation cess payments and future of GST Compensation regime to states.
- ⊖ Unequal representation to states in the GST Council and only persuasive (non-binding) GST Council decisions (as stated by the Supreme Court).
- ⊖ Exclusion of products and sectors from the GST regime such as (petroleum products and power).
- ⊖ Other issues such as Multiple tax slabs, fake invoicing, Cumbersome filling structure, technical glitches etc.



Way Forward

- ⊖ Further simplification of tax structure. E.g., lesser tax slabs.
- ⊖ Optimising digital resources to further accelerate the process and increase portal capacity.
- ⊖ Robust compliance regime and technology driven intelligent system for validation of invoices and catching the tax evaders.
- ⊖ Consensus based decisions with focus towards Cooperative federalism through GST Council reforms.
- ⊖ Inclusion of petroleum products under GST to streamline the input tax credit with reduced product cost.
- ⊖ Constitute GST Appellate Tribunal, pending even after 5 years, to fast-track adjudication process

3.4. MONETARY POLICY, BANKING AND PAYMENT

3.4.1. INFLATION

INFLATION AT A GLANCE

Inflation is the rate of increase in prices over a given period of time. Representing the overall increase in prices or the increase in the cost of living in a country, the government and RBI works to:

<p>Ensure that the overall price rise in the Economy stays within reasonable limits.</p>	<p>The inflation target is being estimated through headline consumer price inflation (CPI) and a 4% CPI inflation target with (+/- 2%) as upper and lower tolerance limit to be achieved.</p>	<p>Price stability is a necessary precondition for macroeconomic and financial stability with economic growth.</p>



Current Situation

- ⊖ **6.71% Consumer Price Index (CPI)** in July after an eight-year high of 7.79% in April 2022.
- ⊖ **13.93% Wholesale Price Inflation (WPI)** in July 2022.
- ⊖ According to **Asian Development Bank**, 1% increase in food inflation leads to 0.3% increase in both infant and child mortalities, and 0.5% in undernourishment.
- ⊖ **Rupee Depreciation** leading to **increased prices of imported goods**.



Steps taken

- ⊖ **Hike in Policy rate** (Repo rate) and change of **policy stance** by MPC of RBI to navigate through high inflation and persistent demand-supply imbalances.
- ⊖ **Government initiatives** to control commodity prices through excise duty cuts on petrol and diesel, curbs on private wheat exports, exemption of customs duty etc.
- ⊖ **Creation of strategic buffers** to curb fuel inflation and volatility.
- ⊖ **Price Stabilization Fund (PSF) Scheme and Price Support Scheme (PSS)**.
- ⊖ **Push for domestic production** of imported items and demand substitution.



Persisting Challenges

- ⊖ **Continued inflation pressure**, especially in urban areas, due to high food inflation, elevated crude oil prices etc.
- ⊖ **Impact** of bad weather, pandemic lockdowns and geopolitical tensions such as Russia-Ukraine war leading to **global supply shocks**.
- ⊖ **Demand normalization post Covid-19** with **subdued economic activity** due to supply chain disruptions.
- ⊖ **Heightened volatility** in global financial markets and **monetary policy normalizations** by Advanced Economies, leading to **capital outflows** and **Rupee Depreciation**.
- ⊖ **Pandemic induced** labour shortages on account of reverse migration, social distancing in factories etc.



Way Forward

- ⊖ **Improving quality and frequency of data collection and analysis** through online data collection, Artificial Intelligence etc.
- ⊖ **Pre-emptive monetary policy action** for more effective implementation of **counter-cyclical fiscal policy** and contain the **negative impact on growth**.
- ⊖ Long term measures to **curtail food inflation** through climate-resistant crops, supply-chain infrastructure, cold storage and post-harvest technology to reduce the losses.
- ⊖ **Building Aatmanirbhar Bharat** in high and essential import items such as edible oils, oil and gas, fertilisers etc.
- ⊖ **Supply Chain Resilience Initiatives** on similar lines as launched with Japan and Australia.
- ⊖ **Coordinated monetary and fiscal policy responses** from RBI and Government to tackle the global supply shocks.

3.4.2. INFLATION TARGETING

Why in News?

If average **headline consumer price inflation (CPI)** in India stays **above 6%** in this quarter as well, for the first time RBI will have to explain why the Inflation Target was not maintained.

About Inflation Targeting Framework

Price stability is a necessary precondition for **macroeconomic** and **financial stability**. Thus, price stability remains the **dominant objective** of the **monetary policy**.

Under **Inflation Targeting Framework**, the central bank specifies an inflation rate as a goal and adjusts its monetary policy to achieve the specified annual inflation rate.

BENEFITS OF INFLATION TARGETING



Transparency

Inflation as an anchor provides **greater operational independence** and it is well understood by the **public at large**, making it simple and easy to communicate



Credibility of Objectives

Single objective of monetary policy promotes **rule-based medium-to-long-term path** with more likelihood of success



Predictable Policy Framework

With price stability as an **unambiguous and sustainable goal**, the policy becomes predictable



Other Benefits

Reduced inflation volatility, **reduced impact of shocks** and **anchoring of future inflation expectations** from private sector

Limitations of Inflation Targeting

Though the MPC has kept inflation within tolerance band since its adoption the framework has shown certain limitations such as:

- **Accuracy:** It is inherently a **medium-term framework** due to long and variable lags in monetary policy transmission, leading to ambiguous perceptions of the policy stance.
 - It becomes even more challenging due to **limited data on limited indicators**.
- **Effectiveness:** It can't **control all parts of inflation** with same effectiveness as it is designed to control inflation due to **demand factors** rather than supply factors.
- **Risk of Hurting Poor:** It carries risk of **hurting poor more** as in low-income societies with high inequities, an inflation rate of 4% (+/- 2%) seem callous.
 - E.g. 8% food inflation and 2% in rest would yield **5% CPI inflation**. It is well within limit but it can **push** many people into **distress or poverty** as they spend over 50% income on food.
- **Issues in fixing and maintenance** of target inflation rate as:

- **Persistent low inflation** increases the risk of **deflation**, i.e. fall in prices of goods and services due to **lower growth rate** and **higher unemployment**. It has a **negative impact** on the **Financial System** due to reduced savings and in turn lower profitability of the financial sector.
- **Higher inflation** increases the risk of **stagflation**, i.e. rising prices with high unemployment and slow economic growth.

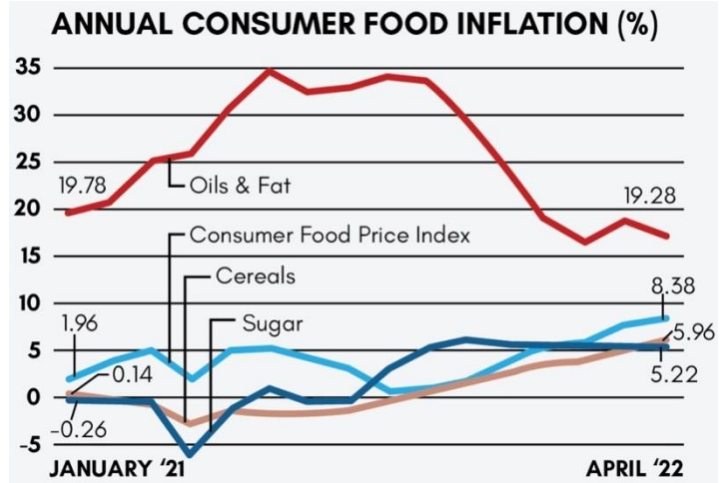
3.4.3. FOOD INFLATION

Why in News?

The **Consumer Price Index (CPI) based inflation** or **Headline inflation** touched an **8-year high** of **7.79% in April**.

Food Inflation in India

- **Food Inflation:** It is a measure of **change in retail prices of food products** consumed by a population group in a given area with reference to a base year.
- In **last 6 months**, **CFPI** has increased from **0.68%** in September 2021 to **8.38%** in April 2022 due to rise in price of various commodities (see graph).



Factors leading to Food Inflation

The current inflation is principally **supply shock-driven**, leading to large and quick rise in relative prices globally. In India, the rise in food inflation can be attributed to **low base year inflation** and number of other factors as given below:

Global Factors	<ul style="list-style-type: none"> ● Disruption in Global Production and Supply by Pandemic and now due to the Russia-Ukraine war. ● Global Commodity Price Rise: On account of geopolitical tensions, export curbs etc., the increasing costs of certain crops, raw materials (e.g., fertilizers), and fossil fuels is adding to food inflation. ● Exchange Rates: Withdrawal of Monetary Accommodation by central banks (e.g. Federal Reserve) has led to increased capital outflows from developing countries including India. ● Climate Change Impact: The impact of extreme weather events (heatwaves, floods etc.) due to climate change is increasing.
Domestic Factors	<ul style="list-style-type: none"> ● Demand-Supply Mismatch in products like edible oils (India imports around 60% of its edible oils consumption). ● Rising Input and Marketing Costs as fertilizers, crude oil etc. ● Minimum Support Price (MSP) and Procurement Costs: RBI found a clear impact on inflation due to MSP. ● The expansionary monetary policy (increasing the money supply since pandemic) have also impacted the food inflation indirectly. ● Domestic Production Challenges: The yield of wheat crop is impacted across North India due to heatwaves in the month of March when the crop is at its final stage.

Impact of High Food Inflation in India: Opportunities and Threats

In short-term, inflation has a **positive influence** due to its **inverse relation with unemployment (Phillips Curve) and economic growth**. Also, being a net-exporter, the global food inflation has created multiple export opportunities for India as:

- **India's agriculture exports crossed \$50 billion** for the first time in FY22 based on record food grains exports such as wheat export of \$2.1 billion in FY22 (\$0.56 billion in FY21).
- It can also help in **bringing the much-needed private investment** in the agriculture sector- improving the **agriculture supply chain** and **doubling farmers income**.
- It can help the government in **meeting its debt obligations** as inflation allows the government to meet its fiscal deficit targets due to rise in nominal GDP.

But inflation beyond a certain level hurts the growth and employment, increasing the risks of **stagflation (stagnant growth with high inflation)**. The risks of stagflation become higher as the food inflation gives rise to various other threats such as:

- **Reduced Purchasing Power:** as food items form 30-40% of the consumption basket in developing countries.
- **Reduced Profits of Companies** in long-term due to overall demand reduction.
- **Reduced Savings:** Inflation hurts savers by reducing the real interest earned by them through bank deposits or other similar savings instruments.
- **Reduced Growth:** To curb inflation and rising exchange rate, RBI needs to tighten its monetary policy. This is done by raising the interest rates, thus reducing money supply and economic growth in the immediate term.

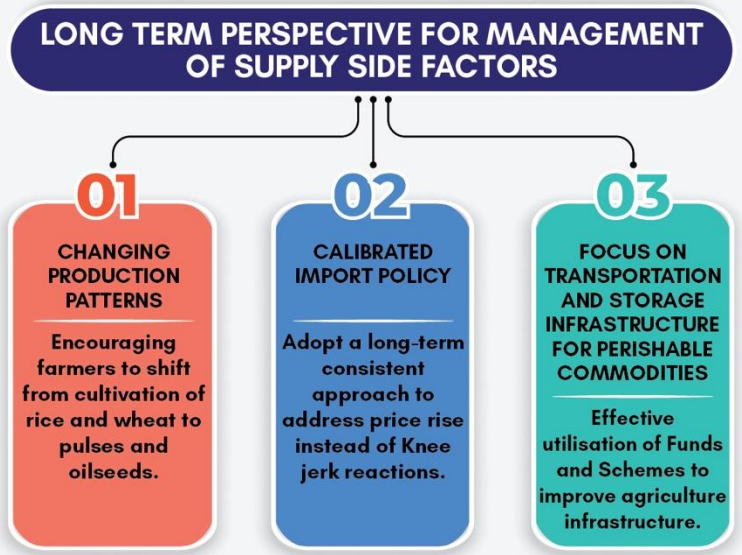
Way Forward

As highlighted in the Economic Survey (2021-22), India needs a **long-term perspective** to manage **inflation** from **supply side factors**. It involves three important steps (see image) to become-

- **self-reliant** in pulses and oilseeds,
- ensure **diversification** of crops, and improve **supply chain** management for reduced wastages, distress sales etc.

Following steps can be taken to ensure the same-

- **Increasing capital expenditure** to support the economy against emerging threats of monetary tightening, reduced purchasing power etc..
- **Enhance use of Technology** (Drones, Artificial Intelligence, Blockchain technologies etc.) for timely and reliable estimates of crops, impact of climate change etc.
- **Rationalizing Public Distribution System and Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY).**
- **Mandate the submission of anonymized stock data** from all warehouses, including private, to avoid black-marketing and generation of artificial inflation of commodities due to hoarding.



ALL INDIA TEST SERIES

Get the Benefit of Innovative Assessment System from the leader in the Test Series Program

PRELIMS

- **General Studies** (हिन्दी माध्यम में भी उपलब्ध)
- **CSAT** (हिन्दी माध्यम में भी उपलब्ध)
- VISION IAS Post Test Analysis™
- Flexible Timings
- ONLINE Student Account to write tests and Performance Analysis
- All India Ranking
- Expert support - Email/ Telephonic Interaction
- Monthly Current Affairs

for **GS 2023: 7 August**
सामान्य अध्ययन 2023: 7 अगस्त

for **CAST 2023: 7 August**
हिन्दी माध्यम 2023: 7 अगस्त

MAINS

- **General Studies** (हिन्दी माध्यम में भी उपलब्ध)
- **Essay** (हिन्दी माध्यम में भी उपलब्ध)
- **Philosophy • Sociology • Political Science & IR**

for **GS 2022: 7 August**
सामान्य अध्ययन 2022: 7 अगस्त

for **GS 2023: 7 August**
सामान्य अध्ययन 2023: 7 अगस्त

Scan the QR CODE to download **VISION IAS** app

3.4.3.1. FOOD CRISIS

FOOD CRISIS AT A GLANCE



Close to **193 million people** were found acutely food insecure in 2021 across 53 countries/territories, an increase of 40 million people from previous year.



By 2030, India's food production could drop **16%** and the number of those at risk for hunger could increase **23%**.



Globally, about **70 million more people** will be at risk from hunger, including more than 28 million in East and Southern Africa.



Steps taken by India

- ⊖ National Nutrition Mission (NNM) or the **POSHAN Abhiyaan**.
- ⊖ **National Food Security Mission**.
- ⊖ **The Zero Hunger Programme** to improve agriculture, health, and nutrition.
- ⊖ **Eat Right India Movement** (Food Safety and Standards Authority of India)
- ⊖ **Food Fortification** to lower the extent of malnutrition and anemia.



Challenges in overcoming the food crisis

- ⊖ **Low agricultural productivity**.
- ⊖ **Large population**.
- ⊖ **High percentage of food being wasted**.
- ⊖ **Inadequacies in the Public Distribution mechanisms**.
- ⊖ **Lack of intersectoral coordination** between ministries and agencies.
- ⊖ **Lack of integrated policy framework** to facilitate the increased use of irrigation and newer farming techniques.
- ⊖ **Large share of Below Poverty Line (BPL) population** with low purchasing power.
- ⊖ **Limited awareness** regarding nutritional requirements and associated measures needed.



Way Forward

- ⊖ **Investments in R&D for climate-resilient, resource-efficient, and sustainable innovations** in food systems.
- ⊖ **Holistic, inclusive governance and management** of water, land, forests, and energy resources.
- ⊖ **Promoting healthy diets and increased sustainability** of food production.
- ⊖ Improving **value chain efficiency, facilitating trade**, and reducing food loss.
- ⊖ **Reorienting financial flows** and attracting new finance.
- ⊖ **Social protection programs must guard poor rural populations**, which make their living from agriculture, against the worst effects of climate change.

3.4.4. INDIAN RUPEE (INR) DEPRECIATION

Why in News?

To stem Indian rupee (INR) slide and boost forex inflows, RBI has relaxed norms for foreign investment in debt, external commercial borrowing (ECB), and Non-Resident Indian (NRI) deposits.

Reasons for recent fall of INR

- **Rising crude oil prices and of other commodities** like edible oils due to the Russia-Ukraine War, demand-supply and other geopolitical reasons.
- **Global Monetary Policy Tightening**, especially from US Federal Reserves.

- **Sustained capital outflows** from Foreign Portfolio Investors (FPIs) by selling off assets and fleeing to safe haven due to high valuations, rising US bond yields and its recession risk.
- **Domestic factors** such as high inflation, widening Current Account Deficit (CAD) due to rising trade deficit etc.

Impact of Rupee Depreciation

- **Widening of Current Account Deficit and Balance of Payments** as India is a net importer.
- **Increased Import Bill** for raw materials, equipment or other supplies procured from overseas.
- **Higher Inflation** because of supply shocks in key import commodities such as coal, crude oil, edible oil, etc.
- **Decline in Import Cover** due to increased import price. E.g. the import cover of India is now at 10 months of import, down from 15 months of import cover in September 2021.
- **A continuously sliding exchange rate discourages foreign investors** from making fresh investments, causing further loss of value in dollar terms.



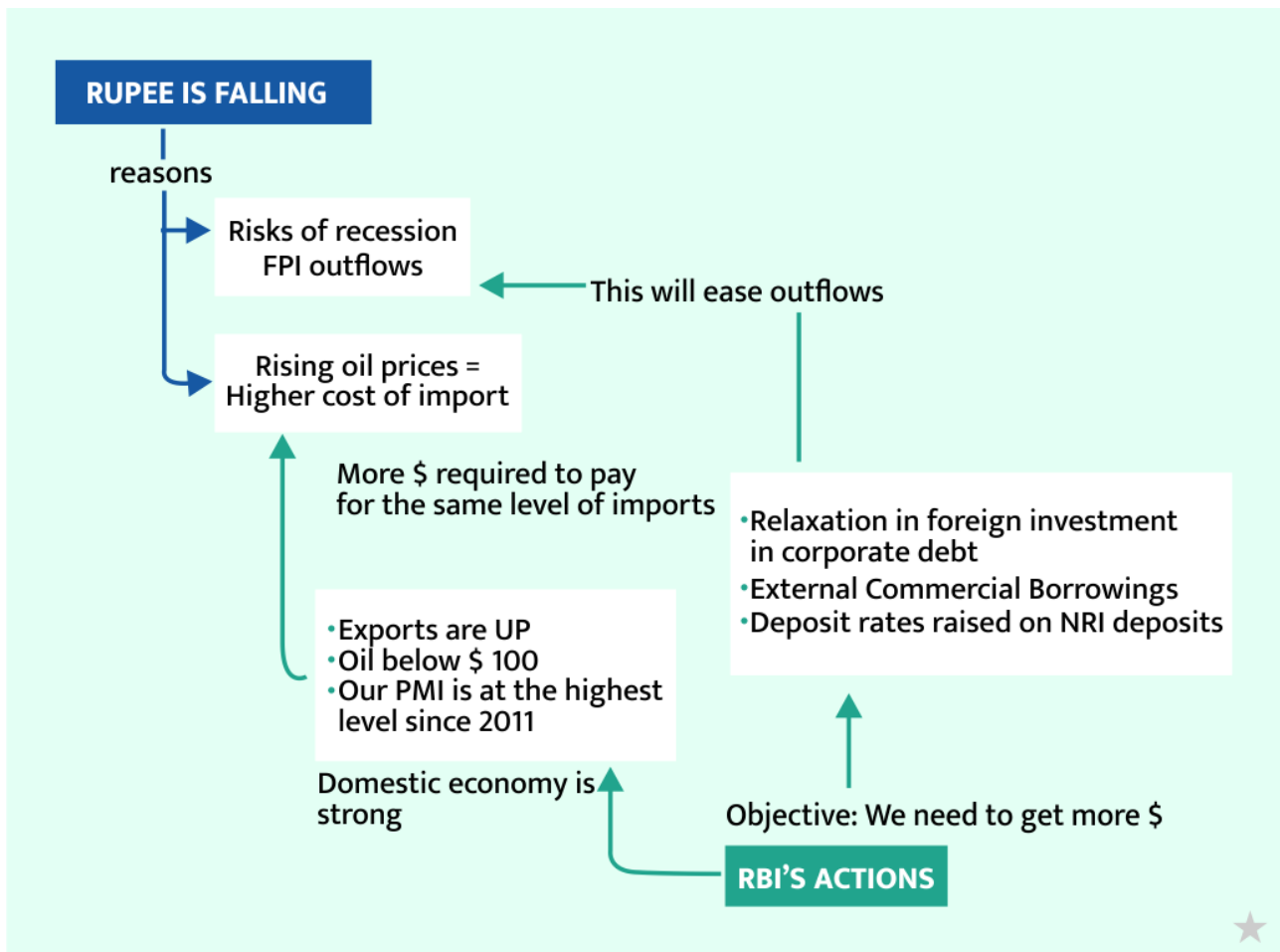
Government and RBI measures to arrest Rupee slide

By Government	<ul style="list-style-type: none"> • Increase of customs duty on gold. India is the 2nd highest consumer of gold with imports worth \$46 billion in FY22. • Imposition of cess and special additional excise duty on export of petrol, diesel, and aviation turbine fuel.
By RBI	<ul style="list-style-type: none"> • Policy rate hike from RBI to curb domestic inflation. • Forex market interventions to curb excess volatility and smoothen the rupee's fall. • Additional arrangement for invoicing, payment and trade settlements between India and other countries in rupee terms. • Higher interest rates on fresh Foreign Currency Non-Resident (Bank) [FCNR (B) and Non-Resident External (NRE) deposits. • Relaxation of the interest rate and amount ceiling for External Commercial Borrowing loans.

Way Forward

Strong fundamentals and **positive economic outlook** are the strengths of INR. But a **free fall** in the exchange rate can damage macroeconomic stability. Therefore, it is vital that the rupee finds its level in line with its fundamentals in a least volatile manner. This can be achieved by:

- **Boosting FPIs confidence** into the Indian market by arresting the continuous slide in the exchange rate through inflation control and enhancing government revenues.
- **Curtailling Imported Inflation** through collective action of fiscal and monetary policy.
- **Judicious Use of Forex Reserves** to ensure that no undue pressure comes on rupee from slowdown in exports and imports.
- **Encouraging Big Companies** to become part of major global indices such as MSCI and FTSE, increasing weight of Indian equities in these indices and compensate for FPIs outflow.
- **Expediting India's entry into Global Bond Indices** to increase forex inflows, boosting forex reserves among others.



3.4.5. FINANCIAL SERVICES INSTITUTION BUREAU (FSIB)

Why in News?

Appointments Committee of the Cabinet (ACC) has approved a **government resolution for establishing the Financial Services Institutions Bureau (FSIB) in place of the Banks Board Bureau (BBB).**

About Financial Services Institutions Bureau (FSIB)

- FSIB is set up, **under the Department of Financial Services (DFS), Ministry of Finance, to:**
 - **Recommend persons for appointment as whole-time directors and non-executive chairpersons** on the Boards of financial services institutions (including public sector banks (PSBs), public sector insurers (PSIs) and financial institutions (FIs)).
 - **Advise on certain other matters relating to personnel management** in these institutions.
 - **Promote excellence in Corporate Governance** in Public Sector Financial Institutions.
- After the formation of FSIB, **all assets, interests, and liabilities of BBB stand transferred to FSIB.**
- **Other major functions of FSIB include:**
 - To advise the Government on **matters relating to appointments, transfer or extension of term of office** and termination of services of the said directors.

About BBB

- **BBB was formed in 2016 as an autonomous recommendatory body** with the Centre notifying amendment to the **Nationalised Banks (Management and Miscellaneous Provisions) Scheme, 1980**, that provided a legal framework for the composition and functions of the BBB.
 - It was **recommended by P.J. Nayak committee** set up to prescribe ways to resolve the issues plaguing India's public banking sector.
- It was **established with a view to improve the Governance of Public Sector Banks (PSBs)** by recommending for selection of heads of PSBs and help Banks in developing strategies and capital raising plans.
- BBB was a **part of the 7-point strategy of the Indradhanush Mission** aimed at revamping PSBs.

- To **advise the Government on the desired management structure** at the Board level for PSBs, FIs and PSIs.
- To build a **databank containing data related to the performance** of PSBs, FIs and PSIs.
- To advise the Government on **formulation and enforcement of a code of conduct and ethics** for whole-time directors in PSBs, FIs and PSIs.
- To **help PSBs, FIs and PSIs in terms of developing business strategies** and capital raising plan etc.
- **Composition of FSIB**
 - **Chairperson of FSIB**, to be nominated by the Central Government.
 - ✓ a retired official from the banking sector or a regulatory institution, or
 - ✓ a business person of repute with sufficient knowledge of the financial sector, or
 - ✓ a person with at least 25 years of experience in public administration with experience in banking and the financial sector.
 - **Ex officio members:** Secretary in charge of DFS, Department of Public Enterprises, Chairperson of the Insurance Regulatory and Development Authority of India (IRDAI), Deputy Governor of RBI.
 - **3 persons with subject matter knowledge relating to PSBs and FIs** and **3 persons with subject matter knowledge relating to PSIs** (to be nominated by the Central Government) as part time members.

Why there was need for replacing Banks Board Bureau (BBB)?

- **Slow appointment process:** The weighted average time taken for recommending the positions in PSBs was 76 days, in insurers (36 days) and in FIs (189 days).
- **Legal hurdles over its power and jurisdiction:** Delhi High Court last year ruled that the BBB couldn't select the general managers and directors of state-run general insurers, as it was not a competent body.
- **Lack of autonomy:** Government continued to exercise its authority over PSBs as credit, expansion and even appointments of chairmen have to go through ACC.

Significance of FSIB

- **Reduction in time taken for appointments:** Due to improvement in processes for scrutiny and leveraging on technology there will be a significant reduction in time taken for appointments in PSBs, FIs and PSIs.
- **Better Human Resource (HR) Management:** FSIB will help to develop a robust leadership succession plan for critical positions that would arise in future through appropriate HR processes, including performance management systems.
- **Improved corporate governance:** With mandate like advising the government on formulation and enforcement of a code of conduct and ethics for whole-time directors in PSBs, FIs and PSIs the overall governance will improve.
- **Transparency in selection process:** Promotions and recruitments happened at the will and mercy of the government. The BBB, and now the FSIB, aims to prevent such red-tape and promote people based on merit.

3.5. AGRICULTURE

3.5.1. LIVESTOCK SECTOR

LIVESTOCK SECTOR AT A GLANCE

<p>About 20.5 million people depend upon livestock for their livelihood. Livestock provides livelihood to almost two-third of rural</p>	<p>It also provides employment to about 8.8 % of the population and contributes around 25.6% of total Agriculture GDP.</p>	<p>Livestock Census (Conducted periodically since 1919) is the main source of data related to livestock.</p>



Role of livestock in farmers' economy

- ⊕ **Income:** Livestock is a source of subsidiary income for many families especially the resource poor.
- ⊕ **Employment:** Landless and less land people depend upon livestock for utilizing their labour during lean agricultural season.
- ⊕ **Food:** Livestock products such as milk, meat and eggs are an important source of animal protein to the members of the livestock owners.
- ⊕ **Social security:** The families especially the landless which own animals are better placed than those who do not.
- ⊕ **Draft:** The farmers especially the marginal and small depend upon bullocks for ploughing, carting and transport of both inputs and outputs.
- ⊕ **Dung:** In rural areas dung is used for several purposes which include fuel (dung cakes), fertilizer (farm yard manure), and plastering material (poor man's cement).



Challenges faced by livestock sector

- ⊕ **Disease outbreaks:** Around 80 percent of the Office International des Epizooties (OIE) listed animal diseases are prevailing in India like Foot and Mouth Disease (FMD), Anthrax, Rabies, Glanders etc.
- ⊕ **Antimicrobial resistance:** India holds rank among top 5 nations in antibiotics use in animals, wherein the poultry sector is the largest reservoir of antibiotics.
- ⊕ **Unorganized Market:** The livestock market is underdeveloped, and the supply chain is poor.
- ⊕ **Poor Livestock Extension:** since only 5.1 percent of households have access to livestock-related information.
- ⊕ **Feed and Fodder shortage:** due to increasing pressure on land for growing food grains, oilseeds, pulses and inadequate attention being given to the production of fodder crops
- ⊕ **Issues in marketing of livestock and livestock products.**



Initiatives taken for livestock sector in India

- ⊕ Livestock Health and Disease Control Program (LHDCP)
 - Livestock Health and Disease Control (LH & DC) scheme and National Animal Disease Control Programme (NADCP) are merged under LHDCP.
- ⊕ National Livestock Mission
- ⊕ Animal Husbandry Infrastructure Development Fund
- ⊕ National Program for Dairy Development Fund
- ⊕ Rashtriya Gokul Mission
- ⊕ Supporting Dairy Co-operatives and Farmer Producer Organizations
- ⊕ Dairy processing & Infrastructure Development Fund



Way Forward

- ⊕ **National Animal Disease Reporting System needs to be strengthened** for reporting of disease outbreaks on a real-time basis.
- ⊕ **Regulated sales of antibiotics, capping the use of antibiotics** in farm animals etc.
- ⊕ **For dairy commercialization, organized markets are necessary.**
- ⊕ **Need to increase the number of veterinary hospitals** in proportion to the livestock population.
- ⊕ **Institutional training and short-term skill enhancement** courses for the para vet can be planned.
- ⊕ **Initiatives such as creating fodder cooperatives,** increasing the common grazing lands for an adequate supply of feed and fodder.

3.6. INDUSTRY AND INFRASTRUCTURE

3.6.1. INDUSTRIAL POLICY OF INDIA

Why in News?

With increasing threats to global interconnectedness, there is a growing realization that India should also change its industrial policy.

Major Policy Changes/Initiatives in recent times

- **Infrastructure Development** via. National Investment and Manufacturing Zones' (NIMZs), National Industrial Corridors Programme (NICP), Technology parks etc.
- **PM Gati Shakti National Master Plan** for multimodal connectivity to economic zones.
- **Production-Linked Incentive (PLI)** for sunrise and strategic sectors to boost manufacturing and export.
- **Other Legal and Policy Reforms**- Taxation Reforms (e.g. GST), IBC Code, Make in India, Startup India, 29 labour laws amalgamated into 4 Labour Codes etc.

Performance of Policy Changes/Initiatives since 1991

Positive Impact	<ul style="list-style-type: none"> • Increased Competitiveness through significant improvement on innovations, logistics cost reduction, Ease of Doing Business etc. • Accelerated Economic Growth due to increased competitiveness and increased FDI inflows. • Increased pace of Urbanization leading to rise of Middle Class, estimated to be around 35 crore with economic development, contributing to output expansion for Home Market. • Significant reduction in poverty with 271 million people taken out of multi-dimensional poverty between 2005-06 and 2015-16. • Ease of Burden on economic resources through closure of/disinvestment in non-performing Public Sector Enterprises (PSEs).
Negative Impact	<ul style="list-style-type: none"> • Stagnant Manufacturing Sector in terms of contribution to GDP (15-17% since 1991). • Decline in Employment Elasticity from 0.43 (during 1988-87 to 1993-94) to 0.18 (during 1993-94 to 2011-12). <ul style="list-style-type: none"> ○ Employment Elasticity is the percentage change in employment associated with a 1 percentage point change in economic growth. • Compromise on State Social Objectives because of commercial priorities. • Other Negatives such as rise of slums in urban areas with inadequate municipal services among others.

Challenges to creating a Sound Industrial Policy

- **Limitations of Government Policy** in fully anticipating the outcomes in a market-driven environment with difficult to anticipate trends and market forces.
- **Distortions in Industrial Pattern** owing to **selective inflow of investments**.
- **Cyclical Slowdowns in Global Markets** leading to decline in fresh investments and demand constraints.
- **Technology development and adoption challenges** due to rapidly evolving changes with issues of Data security, reliability of data and stability in communication/transmission.
- **Inadequate Physical infrastructure and connectivity** which still keeps the logistics cost high.
- **Other Challenges** such as **Regulatory uncertainty, Restrictive labour laws, Low Productivity** due to poor health and limited skills, **Intellectual property rights (IPR) protection issues, Inadequate expenditure on R&D and Innovation** etc.

Way Forward

- **Clear Vision and Strategy** to implement structural changes towards diversification and competitiveness of industries to remain **productive and encourage investments**.
- **Facilitating Stakeholder Processes** to overcome coordination and information failure, helping in policy implementation and beneficial trade agreements.
- **Investments in infrastructure and skills for the future** based on the competitive patterns of specialization in future for employability of youth.
- **Align Industrial Policy with State Social Objectives** to ensure holistic development and avoiding trade-offs such as environmental sustainability vs. economic development.

- Enabling ecosystem for technology adoption and innovation, helping to **push industries toward adoption of Industry 4.0.**
- **Identify State Role in fostering long-run innovation** for increased R&D expenditure.

3.6.2. PRODUCTION-LINKED INCENTIVE (PLI) SCHEME

PRODUCTION-LINKED INCENTIVE (PLI) SCHEME AT A GLANCE

Why PLI Scheme?



Objectives of the Scheme

- ⊕ **Transform India into a manufacturing hub** by creating **global champions** in manufacturing.
- ⊕ **Achieve self-reliance** with globally competitive domestic manufacturing to integrate it with the global supply chain.
- ⊕ **Increase investments in manufacturing, innovation** and development to **generate employment opportunities** for youth.



Potential of PLI Scheme

- ⊕ **Increase registration of new manufacturing companies.**
- ⊕ **Add over \$500 billion worth of manufacturing** in sunrise and strategic sectors in **next five years.**
- ⊕ Adding nearly **4% to GDP per annum** in terms of incremental revenue, if fully realised.
- ⊕ **Greater Strategic Autonomy** (e.g. in telecom) and strengthening existing comparative advantages (e.g. in pharma) by localising the most critical aspects of the value chain.
- ⊕ **Achieve \$100 bn plus inward FDI** annually and building India's goodwill and **assert Indian presence** in world markets.



Challenges to the Scheme

- ⊕ **Lack of Manufacturing Culture** due to structural issues and limited skilled workforce.
- ⊕ **Muted domestic manufacturing** since demonetisation due to lopsided initial years of GST, pandemic, etc.
- ⊕ **Policy and Economic constraints** due to issues of restrictive labour laws, clearance delays and necessary funds to build world-class infrastructure for efficient and competitive manufacturing.
- ⊕ **Availability of Raw Material** with rising commodity prices and supply chain disruptions.
- ⊕ **Other Challenges like- Tough competition** from Vietnam and China; Implementation issues and availability of technology.
- ⊕ **Delayed PLI payments** due to funds shortage and other reasons.



Way forward

- ⊕ **Augment industrial infrastructure and connectivity** by increasing expenditure on infrastructure creation for improved competitiveness.
- ⊕ **Enhance overall business environment** to encourage investments through continued Ease of Doing Business reforms such as "single window" regulatory system in all states.
- ⊕ **Revitalising Manufacturing Economy** through revival of domestic demand and optimizing supply-chain to reduce logistics cost with greater resilience.
- ⊕ **Regular Scheme Review** to keep track of progress and address concerns over raw materials, funds, skilled workforce, payments etc.
- ⊕ **Increase investments in innovation, research and skill development** to build necessary talent for PLI success.

3.6.3. TOY SECTOR IN INDIA

Why in news?

Government's **Make in India** has yielded positive results for the toy sector as toy imports in India have declined 70% while exports have increased 61% over the last three years.

About Toy sector in India:

- Toy sector is **fragmented with 90% of the market being unorganised** and over 4,000 toy industry units are from the MSME (Micro, Small & Medium Enterprises) sector.
- Indian toys industry is **estimated to be \$1.5 billion** making up 0.5% of global market share.
 - **Domestic toy demand is forecasted to grow at 10-15%** against the global average of 5%.

Why 'Make in India' for toys?

- **Huge import:** Almost **85-90% of toys sold in India are made in China**. This is primarily because Chinese toys are sold for a cheap price.
- **Low quality of imported toys:** Study by **Quality Council of India (QCI)** had revealed that **67% of imported toys failed a testing survey**, prompting an aggressive effort to produce safe toys locally.
- **Stimulate the local economy** by boosting local entrepreneurship, encouraging skill development among youths and reviving traditional toy industries.

About indigenous Indian Toys

Indian subcontinent has had a **rich tradition of making toys for 5,000 years**, as evident from the **relics of the Indus Valley Civilisation**.

Significance of indigenous toys:

- **Learning:** Eg. Toys like '**Lattu**' teaches **gravity and balance**, '**Gullel**' about **potential** and kinetic energy.
- **Environment-friendly:** Indigenous toys are made from clay, wood, bamboo, paper, recycled and eco-friendly items.
- **Link to India's cultural heritage:** Indigenous toys are based on themes of local folklores, fables (Panchatantra), epics (Ramayana and Mahabharata) etc.
 - Also, **every state in India has its own unique art and skill** of making indigenous toys.
- **Act as a link to strengthen India's age-old culture of sports and games** like Kabaddi, Paramapadha Sopana Padam (Snake and Ladder), Chaupad (Ludo) etc.

Initiatives for Indian toy sector

- **Toycathon 2021** organised by Ministry of Education to crowd- source solutions to problems faced by toy industry.
- **National Action Plan for Indian Toy Story** to boost local manufacturing and incentivise toy and handcraft manufacturers.
- Under **National Education Policy 2020**, toy-making will be introduced to students from the sixth standard onwards.
- **Toys (Quality Control) Order 2020** through which toys have been brought under compulsory Bureau of Indian Standards (BIS) certification.
- Under the **Scheme of Fund for Regeneration of Traditional Industries (SFURTI)** of Ministry of Micro, Small & Medium Enterprises (MSME), **19 toy clusters** have been approved.
- Under **India-UAE Comprehensive Economic Partnership Agreement (CEPA)**, UAE provides **zero duty market access** for exports of Indian toys.

3.7. MINING, POWER SECTOR AND TRANSPORT

3.7.1. SUPPLY OF CRITICAL MINERALS

Why in news?

There is a growing concern over India not finding a place in the US-led Minerals Security Partnership.

About Minerals Security Partnership

- It is an ambitious US-led partnership of 11 countries **to secure and strengthen supply chains of critical minerals** such as Cobalt, Nickel, Lithium and other rare earth minerals.
 - Members include US, Australia, Canada, Finland, France, Germany, Japan, Republic of Korea, Sweden, United Kingdom, and the European Commission.
- The alliance is **aimed at catalysing investment** from governments and the private sector to ensure that countries realise the full economic development benefit of their geological endowments.

- It comes in the backdrop of recorded demand for critical minerals and dominance of China in supply chain of these minerals particularly the processing stage of production.
 - China, according to a report by the International Energy Agency, is **responsible for 70% and 60% of global production of cobalt and rare earth elements**, respectively, in 2019.

About Critical Minerals and their Significance

- **Definition:** It refers to mineral resources, both primary and processed, which are:
 - **Essential** inputs in the functioning of **modern technologies, economies and national security**, and
 - Faces **supply chain disruption risk** on account of non-availability and price volatility.
- It includes **metallic** and **non-metallic element** such as Antimony, Beryllium, Cobalt, Germanium, Graphite, Indium, Lithium, Niobium, 17 Rare earths (heavy and light), Rhenium, Tantalum, Silicon, Strontium, Vanadium, Zirconium etc.
- **Limited substitutes:** They are **critical** as their associated **impact on the economy** is (relatively) **higher** than the other raw materials and they have **limited substitutes**.

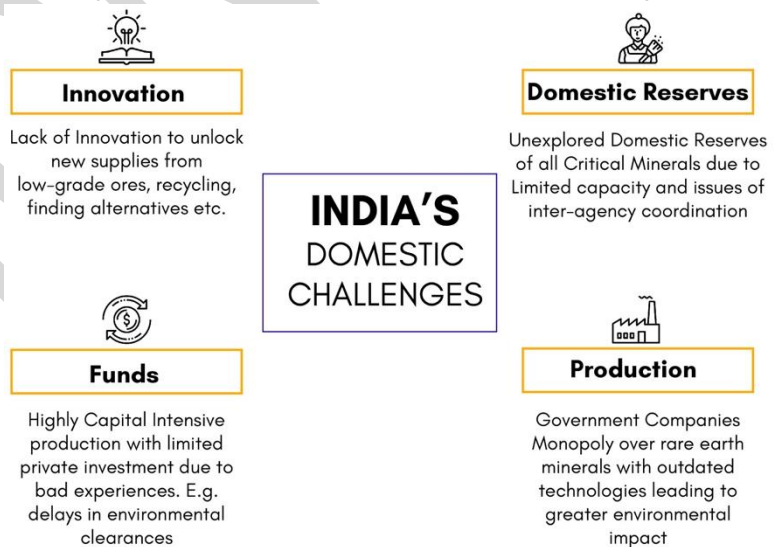
Why India's exclusion from MSP is a concern?

Commonly used in the **production of advanced technologies and low-emission technologies** such as semiconductors, hybrid cars, wind turbines, batteries, defence equipments etc., they are vital in India's **digital economy transition** and achieve-

- **Self-reliance (AtmaNirbhar Bharat)** in multiple sectors by building a domestic manufacturing capacity in semiconductors, batteries etc.
- **Promotion of Energy efficiency** through advanced electricity networks, energy efficient lighting and battery storages.
- **Faster adoption and manufacturing** of hybrid and electric vehicles to cater requirements of **e-mobility**. E.g. Electric cars have six times more critical minerals than conventional cars.
- **Decarbonising of energy system** through clean energy technologies which need a higher amount of critical minerals. E.g., an **offshore wind plant** requires **13 times more** critical minerals when compared with gas-plant of same size.

Challenges in Critical Minerals Supply

- **High Import Dependency of most countries** due to high geographical concentration of critical minerals extraction and processing.
 - E.g. Chinese Dominance across the value chain of rare earth minerals.
- **Long project development lead times** to move mining projects from discovery to first production; leading to a prolonged period of **market tightness and price volatility** on deficit.
- **Declining ore quality and reduced investments** from resource rich countries due to pandemic, increasing the market tightness with increased environmental impact.
- **Higher exposure to political instability and geostrategic risks** due to their significance and complex processing value chain under rising conflicts.
- **Increased sustainability and responsible production pressure on mining activities** due to mine accidents, environmental and social performance scrutiny etc.
- **India's Domestic Challenges** further limit India's abilities to tap critical minerals (see image).



Way Forward

Government has set up **KhanijBidesh India Ltd. (KABIL)** to identify and acquire overseas critical and strategic mineral assets, and signed bilateral agreements such as **Australia-India Critical Minerals Investment Partnership** for mutual benefits. Further, it should:

- **Set up an intelligence centre on critical minerals** to study the future demand and supply, identify potential weaknesses, evaluate potential impacts, and devise necessary actions.
- **Focus on Domestic Exploration** through capacity enhancement of Indian Bureau of Mines for better inter-agency coordination and enhanced exploration of critical minerals.
- **Promote expenditure on research and innovation** to study their formation, improved mining and mineral processing technologies, reducing material intensity and finding a substitute material.
 - It can help India in mining of critical minerals from **Polymetallic Nodules, Seafloor Massive Sulphides or Polymetallic Sulphides** and **Cobalt-rich Ferromanganese Crusts** from Indian Ocean Region (IOR) with rich critical minerals resources; and
- **Enhance supply chain resilience** through supply diversification or **strategic stockpiling** of critical minerals to **weather short-term supply disruptions**.
- **Scale up recycling** to relieve pressure on primary supply and encourage public participation in it by raising public awareness.
- **Strengthen international collaboration** for strategic acquisition of overseas mines and signing of agreements to carry out joint research projects; including increased efforts to join MSP.

3.7.2. DISTRICT MINERAL FOUNDATION (DMF)

Why in news?

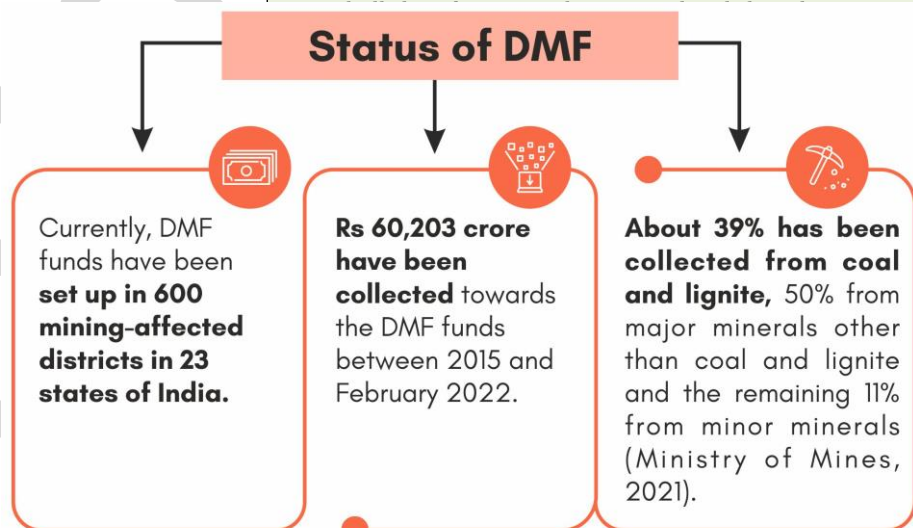
Centre has released the guidelines to tighten the criteria for use of DMF fund to ensure they are used for the specified purpose, that is redevelopment of areas and people affected by mining activities.

About DMF

- Under the **Mines and Minerals (Development and Regulation) Amendment Act 2015**, the Central Government instituted the DMF in 2015.
 - Under this, **DMF is created in each district that has mining.**
- The funds so collected are to be **managed by non-profit trusts** and are to be **used for welfare of mining-affected population**, including tribal and forest-dwelling communities.
 - Each **district has a separate trust.**
- It is a **special fund that is not tied to any particular scheme or area of work**, and it **does not lapse at the end of each financial year**.
 - The unused funds **get accumulated over the years.**

Recent amendments to the DMF

- In March 2020, government issued guidelines suggesting that **up to 30% of the funds could be used towards expenditure related to COVID-19.**
- According to **MMDR Amendment Act 2021**, **central government may also give direction regarding the composition and utilization of the fund** while state governments continue to prescribe the constitution and functions of the DMF.
- In 2021 government issued order that **no sanction or approval of any expenditure out of the DMF fund**



Issues with DMF

- **Inter-state differences:** Until September 2021, **Odisha, Chhattisgarh, Jharkhand, Rajasthan, Madhya Pradesh and Telangana, accounted for 80% of the total DMF collections** in the country.
- **Lack of record maintenance:** PMKKKY guidelines mention that each DMF trust fund has to maintain a website that provides data related to affected areas and people and sector-wise details on funds' collection, allocation, and expenditure.

- **Power tussle:** While the DMF administration comes under the purview of the districts and states, **the new 2021 MMDR amendments have given greater power to the central government regarding the composition and utilisation of the funds.**
- **Lack of ground level participation:** The state DMF Rules and PMKKY clearly mentions power and role of Gram Sabha in mining-affected areas for identification of beneficiaries, DMF planning, and review of works and schemes. This has been particularly emphasized for Scheduled Areas.
 - However, there is practically **no scope of representation of Gram Sabha members in the DMF body of any state.**
 - Moreover, DMF body, members of the Governing Council and Managing Committee is dominated by government officials (MPs, MLAs etc.)
- **Poorly planned or ad-hoc investments:** This is a categorical problem in most mining-affected districts and is particularly worse in areas with high tribal population.
 - For example, not even a **single district has made the required investments for improving child nutrition and under five mortality rates (U5MR).**

Way Forward

- **Identification and notification of DMF beneficiaries** since beneficiaries constitute a primary 'object' of the Trust, it is imperative for the DMF Trust to identify and notify its beneficiaries.
- **Inclusion of people from mining-affected areas in DMF body** so that more effective usage of fund accruals can be made.
- **DMF planning and optimizing investments** by developing short-term (one-three years) and medium-term plans (three-five years) considering an 'output and outcome' oriented approach.
- **Transparency and public accountability** by sharing all DMF related information in public domain through a DMF website.
- **Ensuring Decentralization** by promoting community participation.

3.7.3. ENERGY POVERTY

Why in News?

At the **G-7 Summit in Germany**, the Indian Prime Minister highlighted the issue of **energy poverty** and the need for **equal energy access** for the impoverished global south and the rich global north.

About Energy Poverty and its reasons

Energy poverty, also referred as **fuel poverty**, is usually defined in **two ways** as- **Energy Accessibility**, i.e., lack of access to electricity, and **Energy Affordability**, i.e., household dependence on inefficient and polluting energy sources such as burning of solid biomass.

- Nearly **three billion** people are energy-poor people in **Latin America, Asia, and Africa** alone.
- The risk of energy poverty in Europe and other parts have also increased due to rising energy prices.

Impact of Energy Poverty

- **Economic Impact:** Reduced **Standard of Living** and **Productivity of people** due to lack of access to energy.
 - E.g., in Africa nearly **30%** of the population lack access to electricity.
- **Health Impact:** Energy Poverty has a **negative impact** on years of life, increases **Infant Mortality Rate** etc. due to indoor pollution, lack of access to clean water etc.
 - According to WHO, indoor pollution causes an estimated **1.3 million deaths per annum in low-income countries** due to use of biomass.
 - Similarly, in cold countries it leads to **winter deaths and other health concerns.**
- **Environmental Impact:** Energy poverty often acts as a barrier to introducing measures to **reduce energy use** and **carbon emissions** due to affordability concerns.
- **Political Impact:** In the long-term, it has serious consequences on **autonomous development** of a nation due to unemployment, poverty etc. with risk of social unrest.
 - E.g., **Yellow vest movement in France** was primarily motivated by rising fuel prices.

Energy Poverty combined with **lower purchasing power** and **prevalent developmental gap** compounds the issue in developing countries like India.

Challenges in addressing Energy Poverty

- **Dominance of Atlantic countries** in global energy governance via institutions like **International Energy Agency**.
- **Geostrategic issues:** Individual interests like OPEC's interest in high fuel prices or NATO's sanctions on Russia have increased the energy deficit.
- **Under-investments in Fossil Fuels:** Climate Change has also led to significant decline in global exploration and production activities, leading to energy poverty.
- **Tightened Environmental Regulations:** It deepens household energy poverty due to affordability issues for households using non-clean energy.
- **Domestic Challenges:** Nations have their own domestic challenges. E.g. India faces domestic challenges like-
 - **High import dependence** in fulfilling national demand for energy;
 - **High debt, slow pace of reforms and investment issues** in power sector;
 - **Remote locations** where it is difficult to connect to the grid supply;
 - **Conflict between energy poverty and mitigating climate change** which limits use of available resources like coal, hydropower etc.

Other Reasons for Energy Poverty

Economic Reasons

- ▶ Low income or Poverty in a country, limited nation or people buying ability.
- ▶ Perceived investment risks etc.

Technological Reasons

- ▶ Lack of Technology to tap available energy resources, especially renewable energy such as Solar energy.
- ▶ Inefficient homes and equipment etc.



Natural Reasons

- ▶ Unequal Distribution of Energy Resources such as coal, fossil fuels etc.
- ▶ Locations. E.g. Hilly or Island nations.

Governance Reasons

- ▶ Poor planning in the power sector.
- ▶ Inefficient Utilities leading to waste of energy. E.g. High transmission and distribution losses.

Other Reasons

- ▶ Rise in Energy prices due to War or Geopolitical reasons. E.g. Russia Ukraine war.
- ▶ Recessionary impact on National and Regional Economies. E.g. Sri Lanka.

India's initiatives to address domestic and Global Energy Poverty



Pradhan Mantri Sahaj Bijli Har Ghar Yojana-Saubhagya for energy access to all remaining unelectrified households in rural and urban area.



Bachat Lamp Yojana to promote energy-efficient lighting, distribution of solar study lamps etc. to people



One Sun One World One Grid Declaration (OSOWOG) to aid in developing a worldwide clean energy grid



PM-KUSUM (Pradhan Mantri Kisan Urja Suraksha evam Utthan Mahabhayan) Scheme for farmers energy security and increase share of non-fossil-fuel sources



International Solar Alliance for increased solar energy technologies deployment for energy access, energy security, and driving energy transition in its members

Way Forward

- **Reforms in Global Energy Governance** by utilizing platforms like the **G-20** and **BRICS** to focus more on energy access, poverty and security.
- **Addressing Economic Inequalities** as energy poverty is directly linked to purchasing power, influencing our choices of energy.
- **Governance Reforms** in the power sector for innovative policies, better planning and improved efficiency from local to national level.
- **Innovation and Research** to develop new and cheaper energy resources and technologies, for **cost-effective** and **reliable electricity** access to all. E.g.
 - **Use of Geospatial mapping** to plan electricity distribution and identify best-suited technologies.
- **Comprehensive approach**, i.e. using off-grid, mini-grid, national and global grid solutions to overcome barriers of topography and resource scarcity.
- **Protecting Vulnerable Sections** in society against price rise with access to clean energy sources, helping to alleviate the adverse effect of **environmental regulations** as well.

- **Increase awareness and social partnership on clean fuels** for a sustainable solution to energy poverty while contributing to employment generation, household income growth and improved health outcomes.

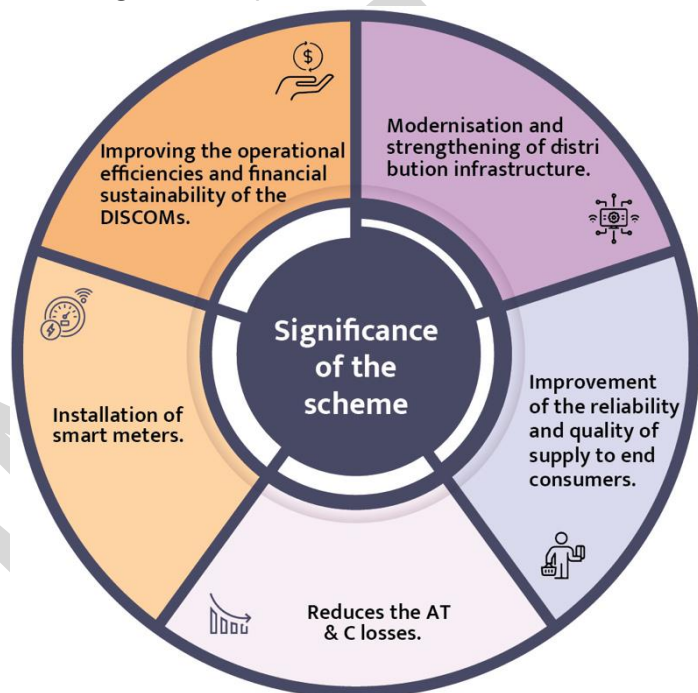
3.7.4. REVAMPED DISTRIBUTION SECTOR SCHEME (RDSS) FOR DISCOMS

Why in news?

Recently, **Ministry of Power** launched RDSS.

About DISCOMS Sector in India

- There are **three primary segments in the electricity sector: generation, transmission and distribution.**
 - **Generation** is the process of producing power using different fuels and is carried out in generating stations (generation plants).
 - **Transmission** utilities carry bulk power from the generation plants to the distribution substations through a grid and at high voltages.
 - **Distribution** utilities supply electricity from the substations to individual consumers through a distribution network.
- The third stage which involves the **distribution of power to all the consumers across the country** is where the DISCOMS come into the picture.
 - DISCOMS in UTs are administered directly by the central government while the **respective state governments govern those in the states.**
 - **Private DISCOMS are also operational in India** but are limited to a few cities.
- **Present status of DISCOMS**
 - State-owned discoms across the country are **financially and operationally beleaguered despite four reform schemes in the past 15 years.**
 - According to Niti Aayog's report of August 2021, **most power DISCOMS incur losses every year the total loss was estimated to be ₹90,000 crore in the financial year 2021.**
 - **REC has sanctioned around ₹22,000 crore to Discoms in four States to clear their outstanding dues under the Electricity, (Late Payment Surcharge and Related Matters) Rules, 2022 to financially strengthening the electricity suppliers and bringing financial discipline in power sector**



Challenges faced by DISCOMS

- **High level of aggregate technical and commercial (AT&C) losses:** As per Ujwal Discom Assurance Yojana (UDAY) dashboard data, **AT&C losses currently stand at 21.7% at the all-India level. (In UK and US, it is about 6-7%.)**
- **Impact of Covid-19:** The Covid-19 pandemic led to **sharp downturn in demand from high-paying Corporates & Industries customers** during the lockdown hurting discoms' finances.
- **Delays in tariff determination:** Despite the Centre's prescription for annual or periodical revision of retail power tariff, there has been delay in tariff determination by the states.
- **Power Procurement Cost Optimisation:** They **oversubscribed to expensive and long-term thermal Power Purchase Agreements (PPAs)** based on incorrect power demand estimates.
 - It led to a **high cost of power, insufficient investment in infrastructure, and payment delays to generators.**
- **Upgrading Distribution Infrastructure:** Many loss-making discoms are unable to invest in the upgradation and maintenance of their equipment due to lack of resources.
- **Lack of progress in earlier initiatives to improve DISCOMS Financial Health.**

Way forward

- **DISCOM Restructuring**
 - Insulating regulatory functions from political pressures by **creating regional electricity regulatory commissions with participation of central government.**
 - **Higher private participation for greater efficiency.** For ex: Franchise models implemented in Odisha and Maharashtra.
 - **PPP model can be useful in loss-making areas**, where commercial operation might not be feasible without government support.
- **Renewable Energy (RE) Integration Reforms:** Discoms may need to **deploy large-scale energy storage** by providing battery systems or pumped hydro-storage systems.
 - **Mini-grids** with decentralised small-scale generation from locally available RE sources **for remote and sparsely populated areas.**
- **Strengthen the RDSS scheme:** This can be done by:
 - **Addressing states' concerns about insufficient resources.**
 - **Centre can help states prioritise power dispatch from more efficient** (and less-polluting) thermal power plants.
 - **Central and state-level committees and agencies need to work together** to scrutinise the feasibility of discoms' action plans and project reports.
 - **Adopt a systemic deployment strategy for smart metering infrastructure.**

3.8. SERVICES SECTOR

3.8.1. SPECTRUM ALLOCATION

Why in News?

A record over ₹1.5 lakh crore worth of 5G telecom spectrum was sold in recently held auction.

About Spectrum Auction

- Spectrum relates to the **radio frequencies allocated to the mobile industry** and other sectors for communication over the airwaves.
 - Devices such as cellphones and wireline telephones require signals to connect from one end to another.
 - These signals are carried on airwaves, which must be sent at designated frequencies to avoid any kind of interference.
- **Union government owns** various publicly available assets within the geographical boundaries of the country, which also include airwaves.
- Union government **through Department of Telecommunications (DoT) auctions spectrum** from time to time.
- The **frequency band and amount of spectrum** that an operator can access—and at what price—**determines the services** (e.g. telephony, data, 2G, 3G, 4G,5G etc.) **it can offer**, including their range and quality.

Significance of spectrum

- With demands for mobile technology expected to rise rapidly in future, India requires more spectrum **to capture the advantages of new opportunities for social and economic development.**
- **Spectrum is the foundational feature that will be needed for:**
 - **New mobile applications that will increase access and capability**, particularly in areas such as education, health care, transportation, and commerce.
 - **Major flagship programs** like Digital India and Smart Cities fundamentally depend on telecommunications infrastructure.
 - **To overcome rural/urban disparities** and bring content-rich resources to underserved areas.

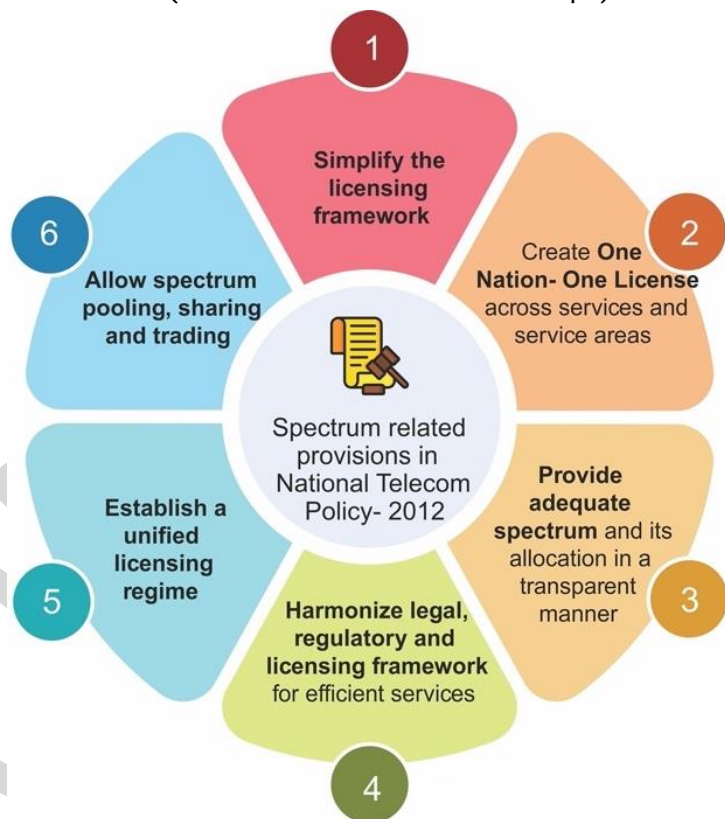
Challenges in spectrum allocation in India

- **Inefficient spectrum auctions:** analysis of auctions reveals that government has concentrated more on short term maximization of profits at the cost of long- term economic growth of the sector.

- **High spectrum costs:** It lower the incentives to invest in network expansion and upgrades and lead to higher consumer prices and can also significantly delay the rollout of new services.
 - Price of spectrum in India runs around 25 times costlier than the countries such as U.S., France, Singapore etc.
- **Inadequate availability:** It is argued that too much spectrum is occupied by the Defence Ministry and is also underutilized, and it creates an artificial scarcity of spectrum for consumer and commercial applications.
- **Policy uncertainty:** Although the Government has allowed 100% FDI in Telecom Sector, yet the foreign investors are reluctant in investing further due to delay in policies and uncertain and ambiguous market environment.
- **Inflexible usage:** Less availability of spectrum in India (much lower than U.S. and Europe) results in inefficient use of spectrum with fewer customers on one hand and congested networks on the other.

Way Forward

- **Operators should be pre- informed about the availability of spectrum** in advance before the auctions to enable them to take bidding decisions based on facts and information and not desperation.
- **Harmonization of spectrum at International, National and Regional level** is imperative to avoid wastage of spectrum and can further free up a good amount of spectrum.
- **Government must provide smooth approval processes,** single window clearance to reduce unnecessary administrative costs to enable faster deployment of network and services.
- **Government must make efforts to free up spectrum** (with defence and government operators) and put it for auction in the near future which would help in meeting up the demands of the telecom service providers.



Related Information

- As a part of mega relief package for the telecom sector, announced last year, DoT had **removed non-telecom income items** such as income from property rent, dividend etc. **from calculation of adjusted gross revenue (AGR).**
 - AGR is a **fee-sharing mechanism between government and telcos.**
- **Old definition of AGR** (included non-telecom income also) upheld by Supreme Court had led to a burden of around Rs 1.47 lakh crore on operating telecom service providers, and **pushed the sector into a deep financial crisis.**
- Hence, the DoT introduced the concept of the **applicable gross revenue (ApGR)** for calculating the AGR.
 - **ApGR**= Gross revenue of telecom operators - Exempted sources of revenue earned by telecom operators.

3.9. BUSINESS AND INNOVATION

3.9.1. EASE OF DOING BUSINESS (EODB)

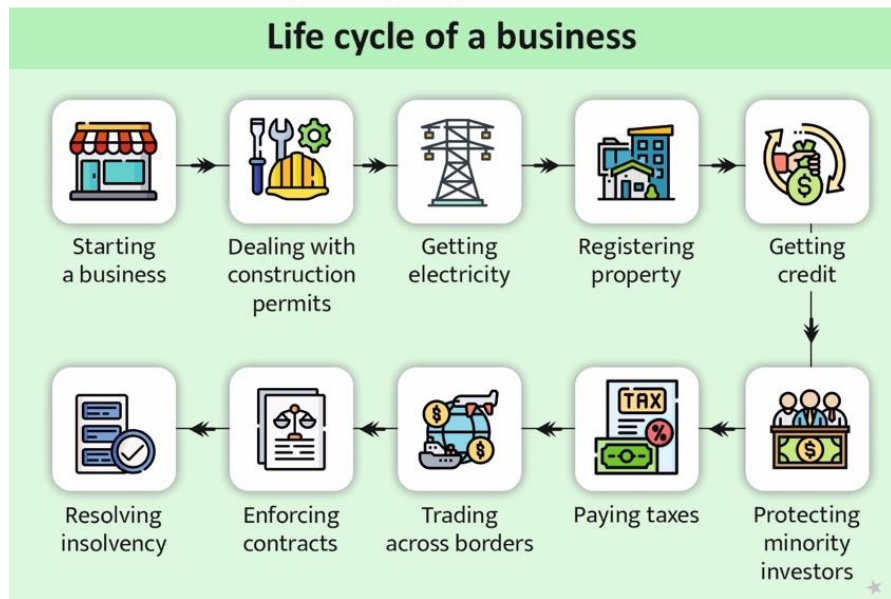
Why in News?

The Union Minister of Finance released the 5th **assessment report** of States and UTs under **Business Reforms Action Plan (BRAP) 2020.**

About Ease of Doing Business (EoDB)

- It is an indication of the **business climate** of a nation. It is based on belief that there is a **positive correlation** between the business regulatory environment and economic outcomes.

- **World Bank** started its promotion in **2002** through EoDB rankings; discontinued in **2021** due to **data irregularities**.
- **India** ranked 63rd in EoDB Rankings 2020.
- It seeks to **streamline existing regulations** by simplifying the life cycle of a business and create an **investor-friendly ecosystem** by:
 - Replacing redundant regulations/procedures with **simple and transparent rules**.
 - **Protection of property rights** of business etc.



Significance of EoDB

- **Boost entrepreneurship and economic growth** through improved market efficiency and reduced regulatory burden.
- **Attract Foreign Investment** by changing investor sentiments.
- **Encourage exports** by lowering the cost of business and improving competitiveness.
- **Streamlining the regulatory framework**. Low regulatory burden helps entrepreneurs to devote time on productive activities.
- **Employment Generation** through increased economic activities along with formalization of the economy.

Government Initiatives to improve EoDB

- **Launch of web-based SPICe+ and AGILE-PRO form** to save time and effort in company incorporation.
- **Online Building Permission System (OBPS)** with defined timelines, online certifications etc.
- **Dedicated Commercial Courts** in Delhi and Mumbai and a modern insolvency regime through **Insolvency and Bankruptcy Code (IBC)** to improve insolvency resolution.
- **India Customs Electronic Gateway (ICEGATE)** to reduce time and cost of export and import and fast-tracking clearances of consignments at ports.
- **Reducing number of days** required for getting electricity connection (from 105 days in 2014 to 53 days in 2019).
- Passage of the **Taxation laws (amendment) Act, 2021** which scrapped the retrospective taxation bringing certainty in taxation laws etc.

Issues/Challenges in EoDB Reforms

- **Operational challenges:**
 - **India is still lagging in critical parameters** of business cycle like enforcing contracts with **increasing delays at IBC** due to vacancies and other reasons.
 - **Uncertain Policy Environment** leading to frequent policy changes.
 - **Infrastructure bottlenecks** due to low capital expenditure and developmental backlog.
- **Ideological and procedural issues:**
 - **Libertarian bias** as the idea of EoDB is largely based on capitalist view of **eliminating barriers to investment, push for market-friendly reforms, reduced labour protections**, etc.
 - **Excessive focus on EoDB ignores deeper structural, social, or political issues** which carries risk of overlooking real and lasting structural reforms.
 - **A one-size-fits-all approach for all parameters, businesses and regions of India** can be fatal as the impact on surroundings can and overall context is variable.

Way Forward

- **Improve Governance** through:
 - **Clear Timelines** mandated through the **Public Service Delivery Guarantee Act** (or equivalent) in all states/UTs.

- Encouraging States to enact **Comprehensive Uniform Building Code/building by-law** applicable to the entire State.
- **Improve Policy Environment** through:
 - **A Comprehensive Policy**, incorporating EoDB requirements as well as a clear vision for a stable policy environment and ensuring **proper implementation** of laws.
- **Improve Developmental Climate** through:
 - **Understanding the dynamics of each business** and balancing the different socio-economic needs. E.g., balancing business interests and labour interests.
 - **Infuse a culture of learning** among states/UTs from each other's best practices through further reforms in BRAP- recording feedback of states/UTs on each other's policies.

3.9.2. DIGITAL INDIA

Why in news?

While addressing the **Digital India Week**, Prime Minister (PM) said that **digital technologies and Direct Benefit Transfer** into the accounts of beneficiaries have **helped India save Rs. 2.23 lakh crore** from middlemen.

About Digital India

- It is a flagship programme launched (2015) by Ministry of Electronics and Information Technology (MeitY) with a **vision to transform India into a digitally empowered society and knowledge economy**.
- **Vision:**
 - Digital infrastructure as a utility to every citizen.
 - Governance and Services on demand.
 - Digital empowerment of citizens.

Initiatives launched during the event

- **Digital India Bhashini**- It will enable easy access to internet and digital services in Indian languages.
- **Digital India GENESIS (Gen-next Support for Innovative Startups)**.
- **Indiastack.global**- It is a **global repository of key projects implemented under India Stack** like Aadhaar, UPI, Digilocker, Cowin Vaccination Platform etc.
- **myScheme**-It is a **service discovery platform** facilitating access to Government Schemes.
- **C2S (Chips to Startup) Programme**- It aims to train specialized manpower in the area of design of semiconductor chips.
 - It is part of the India Semiconductor Mission.
- **Meri Pehchaan**- National Single Sign-On (NSSO) for One Citizen Login.



Issues and challenges:

- **Rural-Urban Digital divide** due to **unreliable electricity, unaffordability, topographical challenges, and high cost of infrastructure**,
- **Digital illiteracy:** It is **prevalent in most of the towns and villages** in India, especially among the older generation.
 - According to government data, only **20% of Indians know how to use digital services**.
- **Digital Gender inequality:** **National Family Health Survey Report-5 (2019–21)** suggests that **33.3% of the female population had ever used the internet**, as compared to 57.1% of male population.
- **Slow and delayed infrastructure development:** According to a study, India's digital infrastructure is inadequate to tackle the growing increase in digital transactions.
- **Cyber security:** **Extent of digital connectivity** to remotest villages and digitisation across sectors has necessitated focus on cyber-security.
 - Also there is a **lack of trained cyber security professionals** in India.

- **Data Protection and Privacy:** India is yet to have a comprehensive data protection law regime to safeguard the data and privacy of citizens.
- **Private participation:** Their participation in government digital projects is poor because of long and complex regulatory processes.

Way forward

- **Awareness programme to educate and inform the citizens,**
- **Addressing the digital divide is needed for inclusion and equity.** Initiatives like National Digital Literacy Mission and PMGDISHA need to be ramp up to increase digital literacy.
- **Private sector should be encouraged** to develop last mile digital infrastructure in rural and remote areas.
- Government could bring out a **'comprehensive legal framework' to regulate the online space, including bringing separate laws on data privacy, cybersecurity,** telecom regulations, and harnessing non-personal data to boost innovation in the country.
- **Roll out digital programmes** for skilling, re-skilling and up-skilling as per needs of emerging technologies (AI, big data, blockchain etc.) and develop expertise in the cybersecurity domain.

ADVANCED COURSE GS MAINS



Targeted towards those students who are aware of the basics but want to improve their understanding of complex topics, inter-linkages among them, and analytical ability to tackle the problems posed by the Mains examination.



Covers topics which are conceptually challenging.



Approach is completely analytical, focusing on the demands of the Mains examination.



Mains 365
Current Affairs
Classes (Offline)



Comprehensive current affairs notes

Sectional Mini Tests



Duration: 12 weeks, 5-6
classes a week (If need
arises, class can be held
on Sundays also)

Scan the QR CODE to
download VISION IAS app



**Admission
Open**



**LIVE/ONLINE
CLASSES AVAILABLE**

4. SECURITY

4.1. EXTREMISM AND TERRORISM

4.1.1. PREVENTION OF MONEY LAUNDERING ACT (PMLA)

Why in news?

Recently, Supreme Court upheld the **core amendments made to the Prevention of Money Laundering Act (PMLA), 2002.**

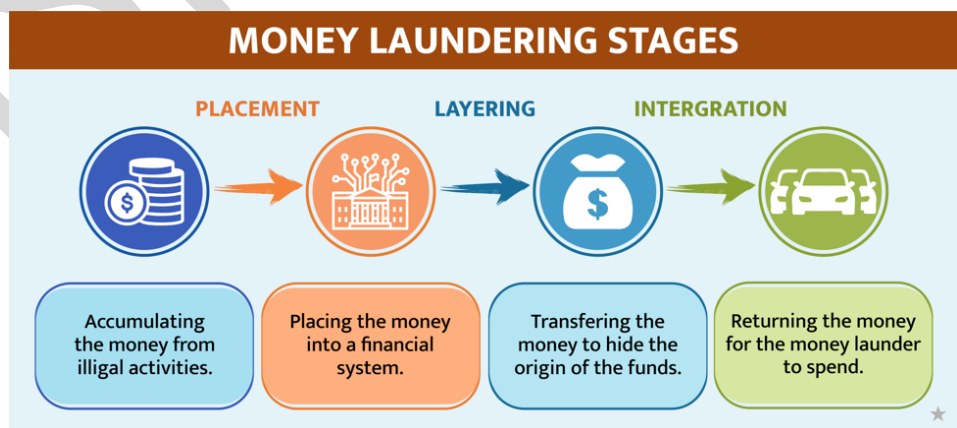
More on news

- SC verdict came on challenge raised against amendments introduced to PMLA, 2002 by way of Finance Act in 2019.
 - Amendments to PMLA **provided Enforcement Directorate (ED) extensive powers of summons, arrest and raids, and makes bail provisions difficult** while shifting burden of proof of innocence onto accused rather than prosecution.
- **Other Key observations made by SC in Vijay Madanlal Choudhary Vs Union of India case**

Specifications	Detail
Money Laundering is not a standalone offence	• Money-laundering not only affects social and economic fabric of nation but also tends to promote other heinous offences, such as terrorism, offences related to Narcotic Drugs and Psychotropic Substances Act (NDPS), 1985, etc.
Twin bail	• Stringent conditions for bail under PMLA Act are legal and not arbitrary. • Court ignored earlier judgement of SC that had declared twin conditions for bail to be unconstitutional , being violative of Articles 14 and 21 of Constitution.
ED officials are not police officials	• Authorities of ED who are investigating into money laundering cases as per PMLA Act are not "police officers" . Hence, statements recorded by ED authorities while inquiring into proceeds of crime are not hit by Article 20(3) (right against self-incrimination).
Enforcement Case Information Report (ECIR)	• No need to formally register an ECIR before initiating penal action or prosecution against person involved with process or activity connected with proceeds of crime under PMLA, 2002. • ECIR cannot be equated with FIR as it is an internal document of ED.
Provisional attachment of property	• SC upheld section 5 of PMLA , which concerns with provisional attachment of property.

About Prevention of Money Laundering Act (PMLA), 2002

- It was **introduced in 2002 and enacted in 2005** to tackle the problem of money laundering.
- It was enacted in **response to India's global commitment (including Vienna Convention) to combat menace of money laundering, stemming from trade of drugs and narcotics and organised crime that goes with it.**



- **Objectives of PML Act**
 - To prevent and control money laundering
 - To confiscate and seize the property obtained from the laundered money; and
 - To deal with any other issue connected with money laundering in India.
- Under the Act, **ED is empowered to conduct money laundering investigation.**

Key features of PMLA, 2002

- **Defines offence of money laundering:** According to the act, whosoever attempts to indulge in any process or activity connected with the proceeds of crime including its concealment, possession, acquisition or use and projecting or claiming it as untainted property shall be guilty of offence of money-laundering.
- **Set ups Adjudicating Authority:** It prescribes for formation of three-member Adjudicating Authority for dealing with matters relating to attachment and confiscation of property under the Act.
- **Set ups Appellate Tribunal:** It is the body appointed by Centre empowered to hear appeals against the decisions of the adjudicating authority or any other authority under the act.
- **Set ups Special Courts:** They have been set-up in a number of States / UTs by Central Government to conduct the trial of the offences of money laundering.
- **Financial Intelligence Unit-India (FIU-IND):** It was established in 2004 as the central national agency primarily responsible for obtaining, processing, analyzing and imparting information related to suspect financial transactions.
- **Burden of proof:** A person has to prove that alleged proceeds of the offence are in fact lawful property where he is found accused of having committed the offence of money laundering.

Way forward

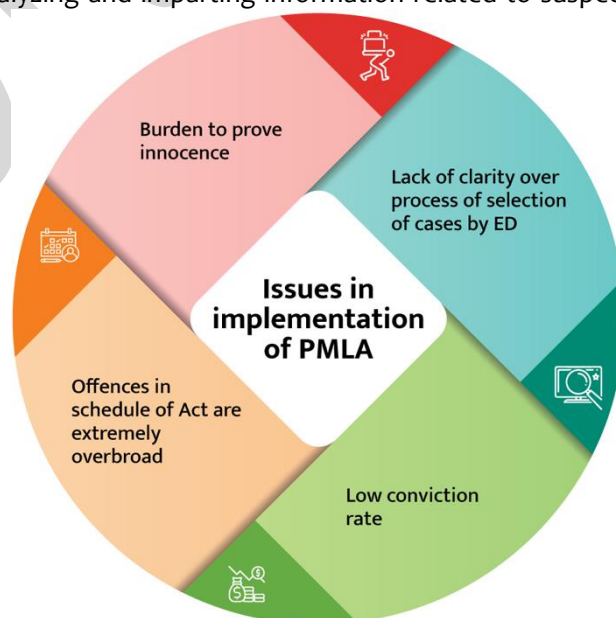
- **Procedural:** ECIR report should be laid down once the offences are finalised and should be provided to the accused.
- **Operational efficiency:** PMLA should not act as a tool of harassment and focus should be on increasing the conviction rate which is nearly 0.5% at present.
- **Clarification on terms:** Such as definition of “proceeds of crime”, and the safeguards to be followed when statements are recorded by investigating officers is needed.
- **Review Scheduled offences:** as the inclusion of “scheduled offences” from 30 different legislations has made the ambit of the law too wide thus diluting the focus of the ED from investigating serious offences.

About Enforcement Directorate (ED)

- It is a **financial investigation agency** under **Department of Revenue, Ministry of Finance**.
- It was **established in 1956** with its Headquarters at **New Delhi**.
- It is responsible for enforcement of **Foreign Exchange Management Act, 1999 (FEMA)** and certain provisions under **PMLA, 2002**.
- FEMA is a civil law while **PMLA is criminal law**.
- In 2021, Parliament has **passed a bill to extend the tenure of director of ED to a maximum of 5 years**.

Recent amendments in PMLA

- **Introduced the concept of ‘corresponding law’** to link the provisions of Indian law with the laws of foreign countries.
- **Adds the concept of ‘reporting entity’** which would include a banking company, financial institution, intermediary or a person carrying on a designated business or profession.
- **Confers powers upon the Director to call for records** of transactions or any additional information that may be required for the purposes of investigation.
- **Term proceeds of crime includes not only 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.



4.1.2. FOREIGN CONTRIBUTION (REGULATION) ACT (FCRA)

FOREIGN CONTRIBUTION (REGULATION) ACT (FCRA) AT A GLANCE



FCRA regulates foreign donations and ensures that such contributions do not adversely affect internal security.



First enacted in 1976, it was amended in 2010 when a slew of new measures were adopted to regulate foreign donations.



FCRA was amended again in 2020, giving the government tighter control and scrutiny over the receipt and utilisation of foreign funds by NGOs.



Significance of FCRA

- ⊖ Maintaining economic growth and development.
- ⊖ Protection of Indian society and culture.
- ⊖ Avoiding foreign influence over government decision-making and make friendly-foreign relations.
- ⊖ Ensure political independence.
- ⊖ Transparency and accountability in NGOs by identifying financial irregularities.



Major provision of FCRA

- ⊖ Prohibits receipt of foreign funds by candidates for elections; journalists and media broadcast companies; public servant, members of legislature etc.
- ⊖ Prior Permission to receive foreign funds though registration with mandatory Aadhaar submission of every office-bearer of NGOs.
- ⊖ Designated FCRA Account in branches of State Bank of India, New Delhi to receive funds. No funds other than foreign contribution can be received or deposited in it and it can't be transferred to any other person or NGO.
- ⊖ Validity of FCRA registration is five years and NGOs are expected to apply for renewal within six months of date of expiry of registration.
- ⊖ Use of funds is limited to purpose for which it was received.
- ⊖ Compulsory filing of annual returns.



Issues with FCRA

- ⊖ Hurt NGOs functioning due to limitations on administrative expenses and increased compliance burden.
- ⊖ Violation of Right to Equality, Right to Privacy, Freedom of Association and independent functioning through limitations on bank account, prohibitions on transfer etc.
- ⊖ Hampers social welfare.
- ⊖ Many NGO's lack ability to access foreign funds because the scheme under which they receive these funds from donor has been banned.



Way Forward

- ⊖ An objective and fully transparent process with searchable database on NGOs.
- ⊖ Use of technology for easy compliance.
- ⊖ Reasonable opportunities for individuals or NGOs of being heard.
- ⊖ Decentralization or Delegation of responsibilities to have participation from State/Local Government as recommended by 2nd ARC.
- ⊖ Fine balance between purpose of legislation and functioning of voluntary sector to avoid subjective interpretation of law and its possible misuse.

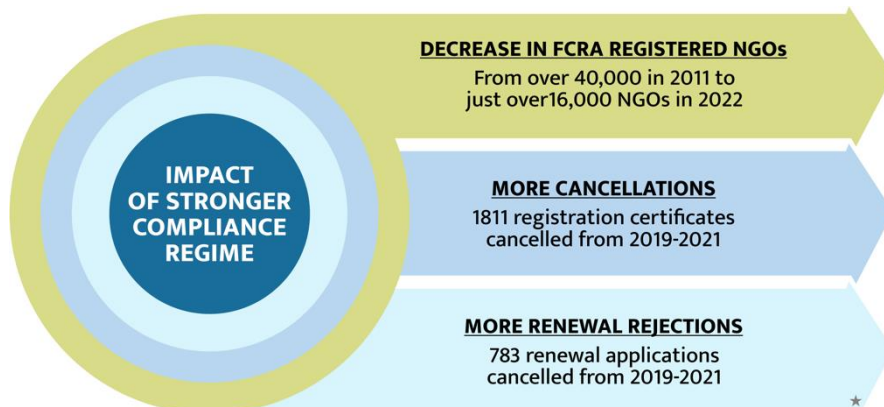
4.1.2.1. FOREIGN CONTRIBUTION (REGULATION) AMENDMENT RULES, 2022

Why in News?

Recently, Central Government notified **Foreign Contribution (Regulation) Amendment Rules, 2022** to reduce compliance burden on citizens.

More on News

- Amending the **Foreign Contribution (Regulation) Rules, 2011**, now individuals can send up to ₹10 lakh without informing government.
 - If amount exceeds ₹10 lakh, individuals will have three months to inform government against 30 days earlier.
 - Entities that can receive this includes political parties, legislature members, election candidates, government servants, judges, journalists, and media houses- who were all barred earlier from receiving foreign contribution.
- Time limit prescribed for intimation to Central Government** for application of obtaining 'registration' or 'prior permission' under FCRA to receive funds has been **increased from 15 days to 45 days**.
- Also, in a separate notification, **list of compoundable offences under FCRA was increased to 12 from 7**.
 - Compoundable offences** are those where the complainant can agree to take back the charges levied against the accused.



4.2. DATA PROTECTION

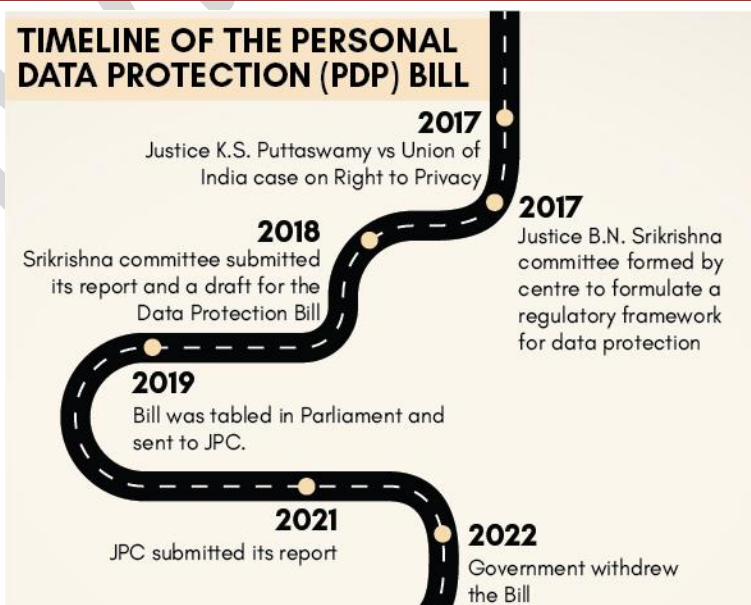
4.2.1. PERSONAL DATA PROTECTION (PDP) BILL

Why in News?

Recently, Central government withdrew the **Personal Data Protection (PDP) Bill** that it had tabled in the Lok Sabha in 2019.

Why the need for withdrawing the bill was felt?

- Radical overhaul suggested by JPC:** In the face of significant number of amendments, recommendations, and corrections suggested by the JPC, government view was that it is better to bring in a new Bill.
- High compliance cost:** Tech industry — specifically Indian start-ups — have raised the issue that the infrastructure needed to comply with the localisation rules in PDP Bill will be a huge drain on their resources.
- Balancing data protection and privacy:** As per experts, many provisions of the Bill, such as data localisation, hardware authenticity clauses, and so on, went beyond data protection, and into the realm of privacy.
- Concerns raised by opposition:** It was alleged that the law gave sweeping powers to the government to access personal data of individuals under opaque conditions, citing national security and other reasons.



- **Not aligned with changing technology landscape:** that has brought to the fore issues such as ethics and AI, more sophisticated ransomware, crypto and NFT's adding commercial dimension to blockchain technology.
- **Concerns raised by civil liberties organisations:** as the bill allowed for non-consensual processing of personal data by the State for providing service or benefit, lacked accountability measures for Data Protection Authority etc.

Way Forward

- New data protection legislation **should take into consideration the criticisms** that have been raised by civil society as well as the private sector.
- **Best provisions/practices from global experiences** such as GDPR (General Data Protection Regulation) of EU and Singapore Personal Data Protection Act (PDPA) should be considered.
- There is a **need to engage in greater stakeholder consultations** and seek expert inputs to formulate robust legislation which ensures adequate accountability and transparency from all data processors.
- New bill should give a **level playing field to small Indian start-ups** and content creators vis-a-vis the giants who are dominating the space at the moment.

4.3. WEAPONS OF MASS DESTRUCTION (WMD)

Why in News?

Weapons of Mass Destruction and their Delivery Systems (Prohibition of Unlawful Activities) Amendment Bill, 2022 was passed by Parliament.

About weapons of mass destruction (WMDs)

- While there is **no single, authoritative definition of a WMD in international law**, the expression is usually understood to cover nuclear, biological, and chemical (NBC) weapons.
- As per United Nations Regional Centre for Peace and Disarmament in Asia and the Pacific (UNRCPD), **WMDs constitute a class of weaponry with the potential to:**
 - **Produce in a single moment an enormous destructive effect** capable to kill millions of civilians, jeopardize the natural environment, and fundamentally alter the lives of future generations.
 - Cause **death or serious injury of people through toxic or poisonous chemicals.**
 - **Disseminate disease-causing organisms or toxins** to harm or kill humans, animals or plants.
 - **Deliver nuclear explosive devices, chemical, biological or toxin agents** to use them for hostile purposes or in armed conflict.
- As per India's 2005 WMD Act, **WMDs are biological, chemical, or nuclear weapons.**
- **Global treaties to outlaw WMDs include** Biological Weapons Convention, 1972, Chemical Weapons Convention, 1992, Treaty on the Non-Proliferation of Nuclear Weapons (NPT), 1970 etc.

ABOUT WMD AND THEIR DELIVERY SYSTEMS (PROHIBITION OF UNLAWFUL ACTIVITIES) ACT, 2005

<p>Primary objective was to provide an integrated and overarching legislation on prohibiting unlawful activities in relation to all three types of WMD, their delivery systems and related materials, equipment and technologies.</p>	<p>It instituted penalties for contravention of these provisions.</p>	<p>It was passed to meet an international obligation enforced by the UN Security Council Resolution (UNSCR) 1540 of 2004 that puts binding obligations on all UN member states to take and enforce effective measures against proliferation of WMD, their means of delivery and related materials to non-state actors *</p>

Significance of the Bill

- **To meet international obligations** of United Nations Security Council's targeted financial sanctions and the recommendations of the Financial Action Task Force (FATF).
- **Address shortcomings in 2005 act** which only covers trading and does not cover financing of WMD.
- **Tackling evolving threats like** developments in the field of drones or unauthorised work in biomedical labs that could maliciously be used for terrorist activity.
- **To strengthen global enforcement** to ensure that non-state actors, including terrorist and black-market networks, do not gain access to such materials.
- **Enforcing global WMD controls:** Having now updated its own legislation, India can demand the same of others, especially from those in its neighbourhood.

Key features of the Bill

- It amends the **Weapons of Mass Destruction and their Delivery Systems (Prohibition of Unlawful Activities) Act, 2005**.
- It **prohibits financing of any activity in relation to WMD** and their delivery system.
- It **empowers the Central Government to:**
 - **freeze, seize or attach funds or other financial assets** or economic resources for preventing such financing.
 - **prohibit making available funds, financial assets or economic resources** for any prohibited activity in relation to weapons of mass destruction and their delivery systems.

What more should India do?

- Amendment will have to be **enforced through proper outreach measures to industry and other stakeholders** to make them realise their obligations under the new provisions.
- **India should keep WMD security in international focus**. Even countries which do not have WMD technology have to be sensitised to their role in the control framework to prevent weak links in the global control system.
- **India can offer help to other countries on developing national legislation**, institutions and regulatory framework through the IAEA (International Atomic Energy Agency) or on bilateral basis.

Conclusion

Given the danger of WMD terrorism that India faces in view of the difficult neighbourhood that it inhabits, such a bill was needed for domestic supervision and regulation of WMDs and also to facilitate highest controls at the international level so as to strengthen global enforcement of standards against WMDs.

MONTHLY
CURRENT AFFAIRS
REVISION 2023

GS PRELIMS
MAINS

LIVE / ONLINE CLASSES AVAILABLE

Scan the QR CODE to download **VISION IAS** app

16 JULY
5 PM

- Detailed topic-wise up-to-date contextual understanding of all current issues.
- Opportunities for discussion and debate through "Talk to expert" and during offline presentations in class.
- Assessment of your understanding through MCQs and Mains oriented questions after each topic.
- Two to three classes will be held every fortnight.
- The Course plan (60 classes) covers important current issues from standard sources like The Hindu, Indian Express, Business Standard, PIB, PRS, AIR,RS/LSTV, Yojana etc.

हिंदी माध्यम में भी उपलब्ध

5. ENVIRONMENT

5.1. CLIMATE CHANGE

5.1.1. UN OCEAN CONFERENCE (UNOC)

Why in news?

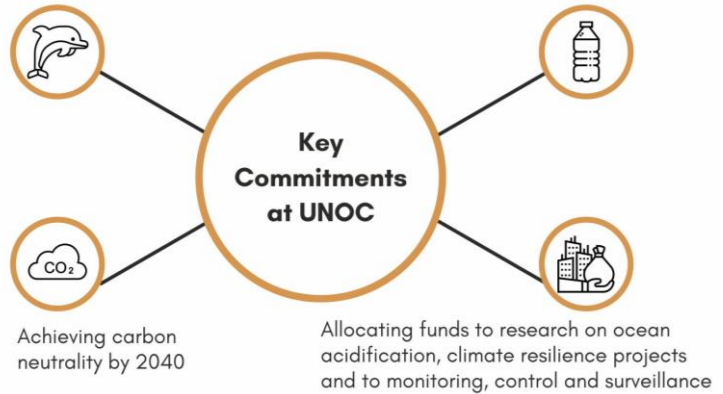
The **second UNOC** was recently co-hosted by Kenya and Portugal at Lisbon.

About the UN Ocean Conference (UNOC)

- In 2017, first UNOC was held at UN Headquarters in New York, co-hosted by the Governments of Fiji and Sweden.
- As part of it, over 150 countries collectively agreed to scale up science-based and innovative actions to address ocean emergency, supporting the implementation of **SDG 14 (Life Below Water)**.
 - This is in line with the United Nations Decade of Ocean Science for Sustainable Development (2021-2030).

Protecting or exceeding 30% of National Maritime Zones by 2030

Reducing plastic pollution and Increasing renewable energy use



Key Highlights of the conference

- **Lisbon Declaration**, a political declaration entitled ‘Our Ocean, Our Future: call for action’.
- Emphasis on the particular importance of **implementing the Paris Agreement (2015) and Glasgow Climate Pact** to help ensure the health, productivity, sustainable use, and resilience of the ocean.
- **States made voluntary commitments to conserve or protect at least 30% of the global ocean** within Marine Protected Areas, and other effective **area-based conservation measures**, by 2030.
- India committed to a **Coastal Clean Seas Campaign** and will work toward a ban on single use plastics.
- UNESCO launched its key **State of the Ocean Report (pilot edition)** during the event. Key recommendations include:
 - Strengthen the ocean science-policy interface.
 - Act to create a **theoretical basis for sustainable ocean planning and management**, within and beyond areas of national jurisdiction.

5.2. AIR

5.2.1. EMISSION NORMS FOR THERMAL POWER PLANTS

Why in news?

Several **thermal power plants (TPP)** are expected to **miss the 2022 deadline** on emission standards.

More on the news

- As per a report by Centre for Science and Environment (CSE), **61% capacity in Category A** are expected to miss meeting their **2022 deadline** on emission standards.
- Further, **33% in Category B** and **32% in category C** are likely to miss their respective deadlines.

DATA BANK



★ TPPs account for more than **60% of total industrial emissions of particulate matter; 45% of SO₂; 30% of NO_x; and more than 80% of mercury.**

Flue Gas Desulphurisation (FGD)

- It is a set of technology used to **remove sulfur dioxide (SO₂) from exhaust flue gases** generated in furnaces, boilers, and other processes due to thermal processing, treatment, and combustion.
- It involves **wet scrubbing or dry scrubbing**.
- FGDs can **reduce sulphur dioxide (SO₂) emissions by 70% in older units and by 92% in newer TPSSs.**

About Emission Norms for TPPs

- In 2015, the Ministry of Environment, Forest and Climate Change (MoEFCC) introduced a **notification directing coal thermal power plant (TPP) to comply with stringent emission norms.**
 - Compliance with the norms **requires retrofitting existing TPPs** with auxiliaries to control emissions such as Flue Gas Desulphurisation units, Selective Catalytic Reduction system, **Electro-Static Precipitators (ESPs)** etc.
 - The deadline was **initially set as 2017.**
- The notification was amended in 2021, providing a **revised deadline for meeting emission norms and disaggregating** TPP units into three categories: **A, B and C.**
 - The amendment also introduced a **penalty mechanism for non-compliance.**

DEADLINE FOR MEETING EMISSION NORMS

Category	Criteria	Deadline and Action
A	Within 10 km radius of the National Capital Region (NCR) or cities having million-plus population.	End of 2022
B	Within 10 km radius of critically polluted areas or non-attainment cities (not meeting National Ambient Air Quality Standards).	Comply with FGD norms by 2023
C	Remaining plants	To install Sulphur Dioxide and Nitrogen oxide control gears by 2024.

Other initiatives for reducing pollution from TPPs

- SAMARTH (Sustainable Agrarian Mission on use of Agro Residue in TPPs) Mission** to promote use of agro-residue to produce zero-carbon electricity.
 - It mandates that all **thermal power plants** in the country use between **5-10% of biomass alongside coal to produce power.**
- Perform Achieve and Trade (PAT)** for improving efficiency.
- Advanced ultra-super critical technology research and development project.**
- Mandatory for coal and lignite based TPPs to ensure 100% utilisation of fly ash.**

Challenges related to implementation of the norms

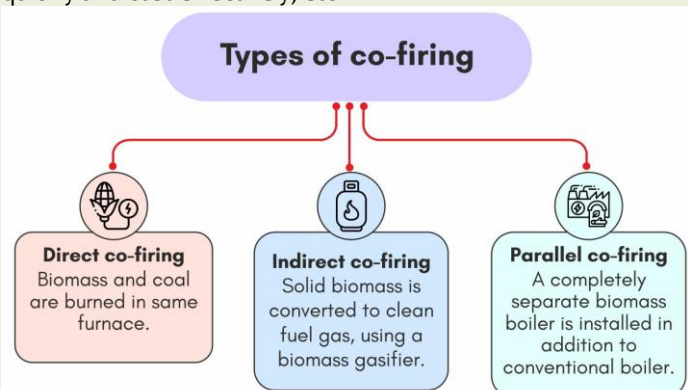
- Weak penalty regime:** In some cases, particularly for old and smaller stations, penalty imposed on non-compliant units will be more feasible to pay rather than bearing the cost of retrofitting pollution control equipment to meet the new norms.
- Financial stress among TPPs** impacting their capabilities to comply with norms.
- Limited domestic FGD sourcing and supply capacity** in India.
- Inefficient monitoring and lack of data availability** in public domain on the status of compliance with the norms.
- Multiple extensions** disincentivising compliance.

Way Forward

- Reporting compliance status in the public domain.**
- Shutting down non-compliant old and smaller units** in a phased manner.
- Enhancing penalties** and prescribing additional penalties for frequent violators.
- Financial support mechanisms for TPPs** for retrofitting pollution control equipment.
- Encouraging domestic production of FGDs** under Atmanirbharat Bharat initiatives.
- Promoting pollution reduction techniques** like biomass cofiring, Supercritical technology etc.

Related concept: Biomass co-firing

- Co-firing biomass consists of **burning biomass in coal-fired power plants along with coal.**
- Advantages:** Higher efficiency and reduced greenhouse gases emissions; controls stubble burning and provides additional income for farmers; existing coal power plants can be retrofitted quickly and cost-effectively; etc.



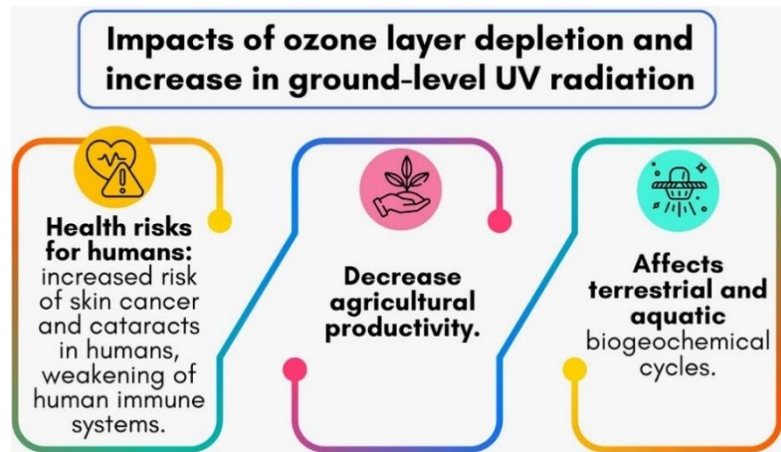
5.2.2. OZONE HOLE OVER THE TROPICS

Why in news?

Scientists revealed a large, **all-season ozone hole** in the **lower stratosphere over the tropics comparable in-depth to that of the Antarctic hole**, but roughly **seven times greater in area.**

About Ozone hole

- Ozone (O₃) layer is a high ozone concentration region in the stratosphere, protecting life on earth by absorbing harmful ultraviolet radiations from the Sun.
- All-season ozone hole is defined as an area of ozone loss larger than 25% compared with the undisturbed atmosphere.
- Thinning of the ozone layer was confirmed in 1985 through the formation of the ozone hole over the Antarctic during the Southern Hemisphere spring.
- Causes of Ozone hole: Release of certain chemicals e.g., chlorine and bromine, chlorofluorocarbons (CFCs), halons, and carbon tetrachloride.
- Initiatives to protect Ozone Layer
 - Vienna Convention on Protection of Ozone Layer 1985, for the promotion of research and monitoring of human activities on the ozone layer.
 - In 1987, the Montreal Protocol was adopted to protect the ozone layer by phasing out the chemicals which deplete it.
 - The Kigali Agreement (adopted in 2016 and entered into force in 2019), provided a path to achieve an 80% reduction in HFCs (not ozone-depleting but have high global warming potential) consumption by 2047.



5.3. WATER

5.3.1. GROUNDWATER CONTAMINATION

Why in news?

World Bank recently launched a report titled 'Seeing the Invisible: A Strategic Report on Groundwater Quality'.

More on the news

- The report highlights the importance of groundwater quality and its role in water resource management.
- It is accompanied by a Practical Manual on Groundwater Quality Monitoring, to provide managers and their teams with practical guidance on how to set up and manage a groundwater quality monitoring program.

Significance of preventing ground water Contamination

- Groundwater meets large share of human's freshwater needs.
- Critical to develop resilience to climate change.
- High cost and time of cleaning up polluted groundwater.

DATA BANK

- ★ Globally groundwater supplies drinking water for more than 1/3rd of the world's population, around 40% of irrigation water and 25% of industrial water.
- ★ Globally, about 150 million people have been exposed to dangerous levels of arsenic in drinking water since the 1970s.
- ★ Long-term exposure to fluoride in drinking water puts an estimated 200 million people worldwide at risk of developing crippling skeletal fluorosis.

Sources of Groundwater contamination

 <p>Geogenic (naturally occurring) contaminants</p> <ul style="list-style-type: none"> • Arsenic, fluoride, uranium, selenium, manganese etc 	 <p>Anthropogenic contaminants</p> <ul style="list-style-type: none"> • Faecal pathogens from improper sanitation practices. • Agricultural pollutants like nitrate fertilizers and pesticides. • Industrial chemicals like-petroleum hydrocarbons, chlorinated solvents, hexavalent chromium, per- and poly-fluoroalkyl substances (PFAS). 	 <p>Salinity</p> <ul style="list-style-type: none"> • Due to sea water intrusion, overexploitation of groundwater etc.
---	---	---

- **Adverse health impacts on people** dependent on groundwater for drinking purposes.
- **Threatens the productivity and sustainability of agriculture:** Contaminants like salinity, selenium and cadmium are phytotoxic i.e., they have adverse effects on plant growth, physiology, or metabolism.
- **Contaminants can accumulate in food chain.**

Constraints in prevention of groundwater contamination in India

- **Lack of access to safe and clean water**, which exposes people to geogenic contaminants.
- **Inefficient enforcement of pollution control norms** leading to industrial chemical mismanagement and improper waste disposal in groundwater aquifers.
- **Technological and financial challenges** in collecting, analyzing and managing data related to groundwater quality monitoring.
- **Poor monitoring of “non-point” sources of pollution** such as nitrate pollution from agriculture sector.

Way forward

- **Undertaking institutional strengthening measures** like a well-formulated legislative framework, an adequate budget, recruitment of relevant expertise, accountability framework with public reporting and information sharing etc.
- **Use of conceptual hydrogeological model** for understanding of the processes that control the movement of pollutants through an aquifer.
- **Strengthening groundwater Quality Monitoring.**
- **Mitigating natural contamination** through rapid surveys and emergency water supply interventions.
- **Technological interventions** such as filtration systems, Bio remediation etc.
- **Remediating anthropogenic pollution** through techniques such as- **in-situ treatment, permeable reactive barriers, etc.**

Common groundwater contaminants and their impact on human health

Contaminants	Health impacts
Arsenic	Black-Foot Disease , painful and disfiguring skin conditions melanosis, keratosis, and hyperkeratosis, liver and kidney disease, and fatalities from heart and lung disease and multiple cancers.
Fluoride	Skeletal fluorosis , dental fluorosis, etc.
Manganese	Impairs the intellectual development etc.
Uranium	Chemical damage to the kidneys , increase in bone cancer risk etc
Nitrate	Blue baby syndrome (methemoglobinemia), increased risks of colorectal cancer, thyroid disease, and neural tube defects etc.
PFAS	Developmental effects in fetuses and breast-fed infants, testicular and kidney cancer , liver damage, immune and thyroid effects, and other cholesterol changes.

Extent of Groundwater pollution in India

- Across India aquifers from 16 states have reported **Uranium contamination** in groundwater.
- **High Nitrate concentration in ground water in India** has been found in almost all hydrogeological formations.
- In states of **Andhra Pradesh, Tamil Nadu, Uttar Pradesh, Gujarat, and Rajasthan**, around 50-100% of the districts have drinking water sources containing excess level of fluoride.
- In India, the states of **West Bengal, Jharkhand, Bihar, Uttar Pradesh, Assam, Manipur and Chhattisgarh** are reported to be **most affected by arsenic contamination of groundwater.**

Steps taken in India to ensure groundwater quality

- **Central Ground Water Board (CGWB)** regularly monitors ground water quality of shallow aquifers on a regional scale, once every year through a network of about 15000 observation wells.
- **Atal Bhujal Yojana**, a Central Sector Scheme, with focus on community participation, demand side interventions and convergence of ongoing schemes for sustainable ground water management.
- **Bureau of Indian Standards has prescribed limits** for contaminants in drinking water.
- **Control of industrial pollution** under the provision of Water (Prevention and Control of Pollution) Act, 1974.
- **Establishment of Common Effluent Treatment Plants (CETPs)** for cluster of Small Scale Industrial units.

5.4. SUSTAINABLE DEVELOPMENT

5.4.1. SUSTAINABLE FINANCE IN INDIA

SUSTAINABLE FINANCE IN INDIA AT A GLANCE

Sustainable finance is defined as investment decisions that take into account the environmental, social, and governance (ESG) factors of an economic activity or project.



Significance of Sustainable Finance

- ⊖ **Building resilience of financial sector to risks posed by climate change:**
 - **Physical risks:** economic costs and financial losses from floods, heatwaves etc. like supply disruption and price shocks in food sector.
 - **Transition risks:** arising from process of adjustment towards a low-carbon economy like unexpected retirement of coal-fired power plants.
 - **Liability risks:** arising from people or businesses seeking compensation for losses suffered from physical and transitional risks.
- ⊖ **ESG investments can offer higher returns for investors.**
- ⊖ **Customer attitudes are changing** with investors demanding more transparency and accountability from companies.



Constraints

- ⊖ **Inadequate board-level engagement** on climate risk and sustainable finance.
- ⊖ **Lack of separate business unit or vertical** for sustainability and ESG-related initiatives.
- ⊖ **Insufficient availability of data, processes and methodologies** for an appropriate assessment of climate-related financial risks.
- ⊖ **Limited availability of skilled human resources** specializing in climate risk assessment and sustainable finance.
- ⊖ **Greenwashing or false claims** of environmental compliance of projects.
- ⊖ **Underdeveloped debt markets and substantial non-performing assets** in banking sector.



Schemes/Policies/Initiatives

- ⊖ **Sustainable Finance Group (SFG) was set up under RBI** to co-ordinate with other national and international agencies on issues relating to climate change.
- ⊖ **RBI joined the Network for Greening of Financial System (NGFS)**—a group of central banks and supervisors willing to share best practices and contribute to the development of environment and climate risk management in the financial sector.
- ⊖ **Task Force on Sustainable Finance** set up by the Department of Economic Affairs, Ministry of Finance.
- ⊖ **Business Responsibility and Sustainability Report (BRSR):** New reporting requirements on ESG parameters introduced by SEBI.
- ⊖ **SEBI has proposed the concept of blue bonds** (debt instrument issued to support investments in healthy oceans and blue economies).
- ⊖ **Priority Sector lending to renewable energy projects.**
- ⊖ **Issuance of Green Deposits and Green Bonds** by several banks in India to support environmentally friendly projects or avenues.



Way Forward

- ⊖ **Identify climate-related environmental risks and opportunities** and assess actual and potential impact of risks.
- ⊖ **Integrate climate change risk assessment into risk management framework of financial sector entities.**
- ⊖ **Invest significantly in the capacity building of staff** on climate risk, ESG and sustainable finance.
- ⊖ **Increase the proportion of renewable energy** in total sourced electricity and formulate voluntary timeline to move towards **net-zero emissions**.
- ⊖ **Including Key Performance Indicators (KPIs)** on climate risk, sustainability and ESG as a part of the **performance evaluation of their top management**.
- ⊖ **Strengthening of Debt markets for green finance.**

5.4.2. ENERGY CONSERVATION (AMENDMENT) BILL, 2022

Why in news?

The Energy Conservation (Amendment) Bill, 2022 was recently passed by the Lok Sabha.

More on the news

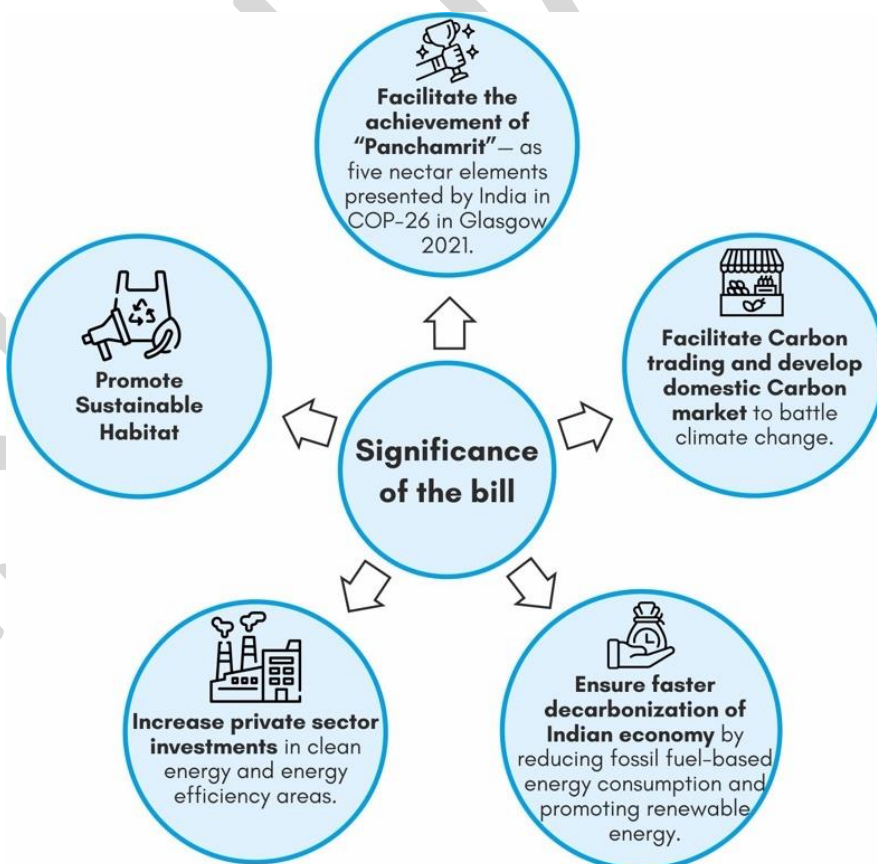
- The bill seeks to amend the **Energy Conservation (EC) Act, 2001**, which provides for the legal framework, institutional arrangement and a regulatory mechanism at the Central and State level to embark upon energy efficiency drive in the country.
- Major provisions of the Act relate to Designated Consumers, **Standard and Labelling of Appliances, Energy Conservation Building Codes**, Creation of Institutional Set up (**Bureau of Energy Efficiency**) and Establishment of **Energy Conservation Fund**.
- It was previously amended in 2010 through the Energy Conservation (Amendment) Act, 2010.

Major provisions of Energy Conservation (Amendment) Act, 2010

- **Established a framework for trading of energy saving certificates:**
 - Empowered the Central Government to issue the **energy savings certificate** to the designated consumer whose energy consumption is less than the prescribed norms and standards.
 - Enabled the **designated consumers** whose energy consumption is more than the prescribed norms to **purchase the energy savings certificate** to comply with the norms.
- **Expanded the scope of energy conservation norms for buildings.**
- **Tightened the applicability of energy efficiency norms** for appliances and equipment.
- **Increased penalties for offences.**
- **Provided for appeals to be heard by the Electricity Appellate Tribunal** set up under the Electricity Act, 2003.
- **Conferred power upon the Bureau of Energy Efficiency to appoint its officers and employees** instead of by the Central Government.

Key Provisions of the Bill

- **Mandating use of non-fossil sources of energy:** The Central Government has been empowered to **specify minimum share of consumption of non-fossil sources by designated consumers** as energy or feedstock.
- **Establishing Carbon Markets:** The Central Government has been empowered to specify a carbon credit trading scheme for reduction of carbon emissions.
 - The central government or any authorised agency can **issue carbon credit certificates to entities registered under and compliant with the scheme.**
 - Energy saving certificate or carbon credit certificate can also be **purchased on voluntary basis.**
- **Substitution of term ‘energy conservation building codes’ with ‘energy conservation and sustainable building codes’:** The new code will provide norms and standards for energy efficiency and its conservation, use of renewable energy and other green building requirements for a building.
- **Inclusion of large residential buildings in the Energy Conservation regime:** The new code will also be applicable to **office building or residential buildings** meeting certain load and demand threshold as against just commercial buildings earlier.



- The state government has been empowered to lower the thresholds.
- **Standards for vehicles and vessels:** The Central Government can now specify norms for processes and energy consumption standards for vehicles (as defined under the Motor Vehicles Act, 1988), and vessels (includes ships, boats, roll-on-roll-off vessel etc.) in addition to equipment and appliances.
- **Amendment in penalty provisions:** The bill specifies penalties for violation of various provisions of the act like failure to meet energy consumption norms and standards or fulfil minimum share of consumption of non-fossil sources etc.
- **Regulatory powers of SERCs:** Empower the State Electricity Regulatory Commissions to make regulations for smooth discharge of its functions.
- **Expansion of the Governing Council of BEE:** Its strength increased to 31-37 from earlier 20- 26.
- **State Government empowered to levy fee for the services rendered by the designated agency** to promote efficient use of energy and its conservation under the Act.
- **Other provisions-**
 - **Constitution of State Energy Conservation Fund** by State Government for the purposes of promotion of efficient use of energy and its conservation within the State.
 - **Prohibition of use of deceptive name that resembles the name of the Bureau.**
 - **Designated agency required to prepare a budget** for the next financial year and forward the same to the State Government.

Conclusion

The need for energy is inevitable and with the changing business landscape, it is has become even more imperative to address the nation’s need to become energy-efficient without putting further pressure on the environment.

5.4.3. RIGHT TO REPAIR

Why in news?

Department of Consumer Affairs (DCA) recently set up committee on the Right to Repair to emphasize on the LiFE (Lifestyle for the Environment) movement through sustainable consumption.

More on the news

Key sectors identified for this framework include **Farming Equipment, Mobile Phones/ Tablets, Consumer Durables and Automobiles & Automobile Equipment.**

About right to repair

- Right to Repair movement calls for manufacturers to **make authentic parts available to consumers so that they can get their device repaired from independent shops** as well, if they so desire.
 - Right to Repair has been recognised in many countries including the **US, UK and European Union.**
- **Concern associated with right to repair**
 - **Opening up intellectual property to third party repair services or amateur repairers** could jeopardise safety and security of their devices.
 - **Reduced efficiency of devices from accommodating modulation and repairability.**
 - **Impact on business and growth in competitive economy.**



5.5. RENEWABLE ENERGY AND ALTERNATIVE ENERGY RESOURCES

5.5.1. WIND ENERGY

WIND ENERGY IN INDIA AT A GLANCE



Key Targets

- ⊖ Achieve total installed capacity of 60 GW of wind energy by 2022.



Current Situation

- ⊖ Installed capacity of wind energy (July,2022): 40.7 GW (10.1 % of total installed capacity in India)
- ⊖ Globally, India ranks 4th in installed wind capacity.



Schemes/Policies/Initiatives

- ⊖ National Wind Solar Hybrid policy, 2018 and National Offshore Wind Energy Policy, 2015.
- ⊖ Technical support including wind resource assessment and identification of potential sites through the National Institute of Wind Energy.
- ⊖ Waiver of Inter State Transmission System (ISTS) charges for inter-state sale of wind power for projects.
- ⊖ Concessional custom duty exemption on certain components required for manufacturing of wind electric generators.
- ⊖ Standard Bidding Guidelines for tariff based competitive bidding process for procurement of Power from Grid Connected Wind Projects.



Constraints

- ⊖ High construction, operational and maintenance expenditure, especially in offshore wind projects.
- ⊖ Difficulties in land acquisition at windy sites.
- ⊖ Challenges in maintaining competitive pricing.
- ⊖ Impact on local wildlife (collision, noise pollution from turbines etc.)
- ⊖ Variable wind, intermittent supply and high cost of energy storage.
- ⊖ Other challenges related to grid integration, procurement and transport wind farm of components, need of skilled workforce for maintenance etc.



India's wind power potential

- ⊖ Gross potential of **302 GW at 100 meter** and 695.50 GW at 120 meter above ground level.
- ⊖ Most of this potential exists in seven **windy States- Gujarat (highest)**, Rajasthan, Maharashtra, Tamil Nadu, Madhya Pradesh, Karnataka, Andhra Pradesh.



Way Forward

- ⊖ Consider wind energy for Renewable purchase obligation.
- ⊖ Waiving excise duties and GST during early stages of project development.
- ⊖ Feed-in tariff (FIT) policy for promoting RE expansion where the government offers a guaranteed purchasing price for electricity produced from RE sources for fixed periods of time.
- ⊖ Invest in research and development for affordable energy storage systems.
- ⊖ Developing offshore projects to overcome land acquisition issues.

5.5.1.1. OFFSHORE WIND ENERGY

Why in news?

Recently, Ministry of New & Renewable Energy (MNRE) released **Strategy Paper for Establishment of Offshore Wind Energy Projects**.

About Strategy Paper for Establishment of Offshore Wind Energy Projects

- Paper identifies **16 zones in total, off the coasts of Gujarat and Tamil Nadu** for harnessing offshore wind energy.
- It suggests **incentives to companies in the offshore wind energy space, including the waiver of transmission charges, renewable energy credits, carbon credits benefits and viability-gap funding**.
- Also, it **proposes three models** for the holistic development of offshore wind farms in the country.

- First, bids for areas where National Institute of Wind Energy (NIWE) has carried out studies (like Gulf of Khambat),
- Second, blocks where developers would do their own studies.
- Third, NIWE would auction large offshore blocks that are not covered by first two models.

INDIA-CUMULATIVE WIND POWER INSTALLATIONS BY STATES (%)



About Offshore Wind Energy

- It is the energy taken from the force of the winds out at sea, transformed into electricity and supplied into the electricity network onshore.
- **Advantages:** Long shoreline in India; no land constraint issue for projects; winds free from obstructions; higher operating hours etc.
- **Challenges:** High cost of infrastructure development and maintenance; Impact of underwater noises from turbine on marine life; challenges associated with subsea cabling, installation of turbines, grid integration etc.

India's Initiatives for Offshore Wind Energy

- **Facilitating Offshore Wind Energy in India (FOWIND)** Project led by Global Wind Energy Council (GWEC) and supported by European Union (EU) to assist India on its offshore wind power development.
- **National Offshore Wind Energy Policy, 2015:** The policy provides for offshore wind power development up to a seaward distance of 200 nautical miles from the baseline, i.e., up to the country's EEZ.
- **Guidelines for Offshore Wind Power Assessment Studies and Surveys** released by National Institute of Wind Energy (NIWE).
- **Offshore Wind Resource Assessment through LiDAR.**

Offshore vs Onshore Wind energy		
	Offshore	Onshore
Wind speed and consistency	Wind speeds are typically faster and more consistent than on land as there are no physical obstacles	Wind speed and direction vary on land due to physical blockages from buildings and surrounding landscape like hills
Energy generation	More consistent in power generation	Intermittent energy generation dependent on wind speed
Size	Offshore wind turbines are much larger in size	Onshore wind turbines are smaller in size
Cost of construction	Higher as compared to onshore projects	Infrastructure required for onshore wind power is half the cost of offshore

5.5.2. OCEAN THERMAL ENERGY

Why in news?

The National Institute of Ocean Technology (NIOT), an autonomous Institute under Ministry of Earth Sciences (MoES) is **establishing an Ocean Thermal Energy Conversion (OTEC) plant with a capacity of 65kW in Kavaratti, Lakshadweep.**

DATA BANK



★ Ocean Thermal Energy Conversion (OTEC) has a theoretical **potential of 180,000 MW in India** subject to suitable technological evolution.

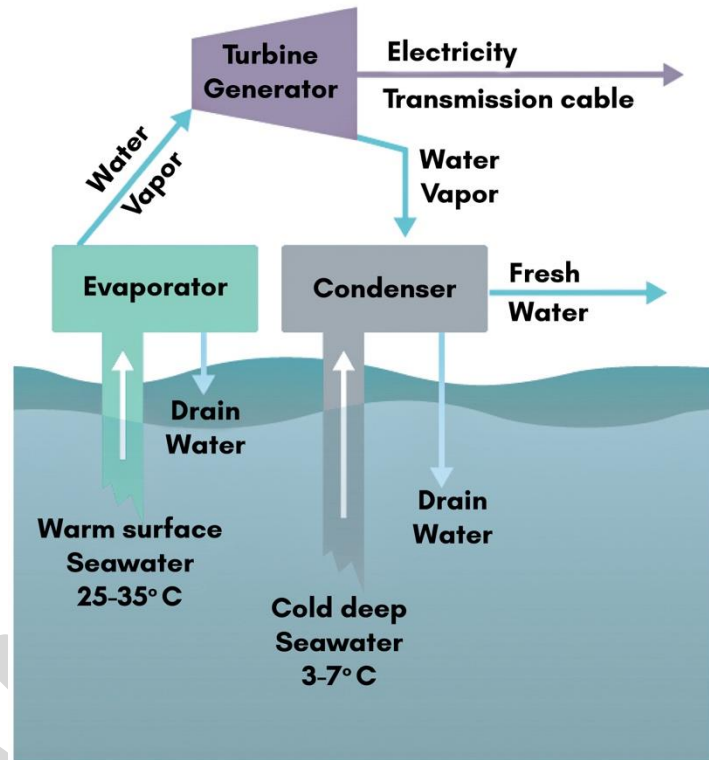
More on the news

The OTEC plant will power the Low Temperature Thermal Desalination (LTTD) based desalination plant for **conversion of Sea water into Potable water**, with capacity of 1 lakh litre of potable water per day.

About Ocean Thermal Energy Conversion (OTEC)

- OTEC is a process for **producing energy by harnessing the temperature differences** (thermal gradients) between **ocean surface waters and deep ocean waters**.
 - In tropical regions, surface water, heated by Sun's energy, can be much warmer than deep water. This temperature difference can be used to produce **electricity and to desalinate ocean water**.
- OTEC systems use a **temperature difference of at least 20° Celsius** to power a turbine to produce electricity.
- **Types of OTEC methods-**
 - **Closed cycle method:** A working fluid, such as ammonia, is pumped through a heat exchanger and vaporized. This vaporized steam runs a turbine and is again condensed using cold water from deep ocean and returned to the heat exchanger.
 - **Open cycle system:** Warm surface water is pressurized in a vacuum chamber and converted to steam to run the turbine. The steam is then condensed using cold ocean water from lower depths.
- **Advantages:**
 - **India is geographically well-placed** for development of OTEC facilities.
 - **Generates a constant, clean source of electricity** unlike intermittent electricity from renewable resources like wind and solar.
 - **Potential to generate potable water, hydrogen, and ammonia.**
 - **Cold and nutrient rich water from the OTEC process can benefit commercial products** such as air conditioning, aquaculture, seawater cooled greenhouses enabled food production etc.

OCEAN THERMAL ENERGY CONVERSION SYSTEM



Other forms of Ocean based energy

Wave Energy

Generated by the movement of a device either floating on the surface of the ocean or moored to the ocean floor by the force generated by the ocean waves.

Current Energy

Captures kinetic energy from the Ocean currents with submerged turbines.

Tidal Energy

Harnesses potential energy from difference in water level from low tide and high tide.

Challenges associated with OTEC

- **High up-front capital costs** and significant maintenance costs of pumping and piping infrastructure.
- **Economical only at very large scales.**
- **Most OTEC Technologies are currently at pre-R&D/demonstration stage or the initial stage of commercialization.**
- **Environmental concerns:** Potential impact on marine organisms and ecosystem due to **discharge of cooler, denser and nutrient rich water** from OTEC facilities, **entanglement** in cables, **entrapment**, noise generation, accidental release of biocides (used for water treatment) or other potential pollutants etc.
- **Increased Biofouling** i.e., unwanted accumulation of algae, microorganisms, plants etc.

Way Forward

- Accelerate financial and policy support for the deployment of OTEC.
- Invest in R&D in and promote international collaborations the field of ocean energy
- Develop more Demonstration projects for OTEC at feasible sites to carefully assess environmental impacts before large scale deployment.

5.6. CONSERVATION EFFORTS

5.6.1. NEW RAMSAR SITES

Why in news?

Recently, India has designated 26 new wetlands of international importance under the Ramsar Convention.

More on the news

- Now, India has a total of **75 wetlands** designated as Ramsar sites, covering an area of **13,26,677 ha**.
- Designation of these sites would help in conservation and management of wetlands and wise use of their resources.

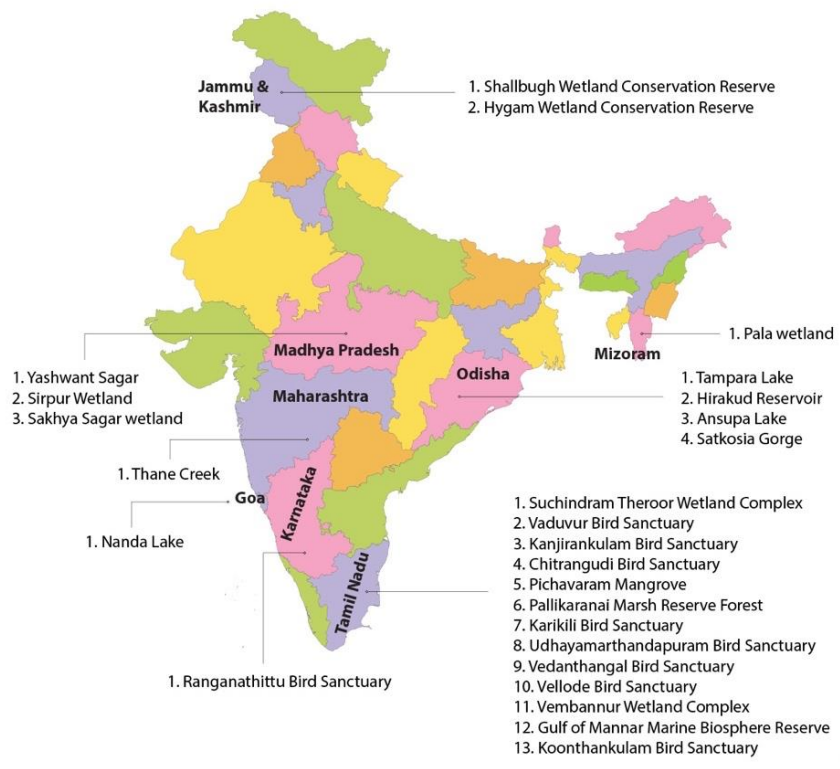
About Wetlands

- A wetland is defined as **any land area that is saturated or flooded with water, either seasonally or permanently**.
- As per Ramsar convention, wetlands include 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.

Threats to Wetlands in India

- **Alteration of natural hydrological regimes** due to factors like- groundwater salinization and over extraction, encroachment and concretisation of catchment area, deforestation, coastal erosion, construction of canals, dams and reservoirs etc.
- **Disturbed nutrient composition and eutrophication due to pollution** from growing waste disposal from urban and peri-urban areas and runoff from agricultural fields.

NEW RAMSAR SITES IN INDIA



About Ramsar convention

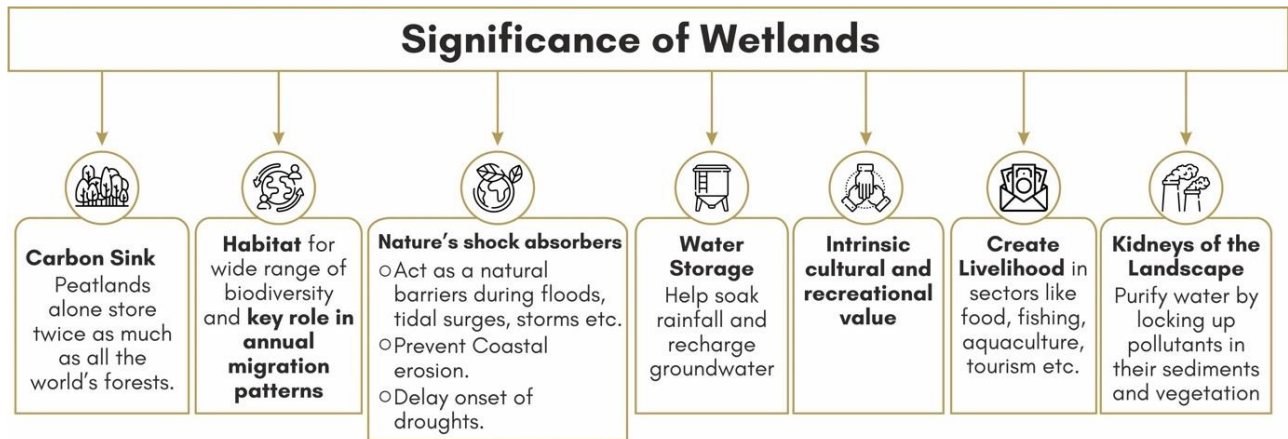
- **Ramsar Convention** adopted in 1971 (came into force in 1975), is an **intergovernmental treaty** that provides the framework for the conservation and wise use of wetlands and their resources.
 - **Wise use of wetlands is defined as the maintenance of their ecological character**, achieved through the implementation of ecosystem approaches, within the context of sustainable development.
- **India is one of the Contracting Parties** to the Convention.
- **Criteria for designation of Ramsar sites:** A wetland must meet at least 1 of 9 criteria as defined by the Ramsar Convention such as supporting vulnerable, endangered, or critically endangered species or threatened ecological communities or, if it regularly supports 20,000 or more waterbirds among others.
- **Ramsar Sites which are potentially at risk** as a result of technological developments, pollution or other human interference may be placed on **Montreux Record**.

Mains 365 - Updated Study Material

- **Proliferation of invasive species** like Water hyacinth, Salvinia, Ipomoea etc.
- **Unsustainable harvesting of wetland resources** such as wood, fish, water, sand etc.
- **Unregulated development of tourism infrastructure** and recreation facilities.
- **Threats from Climate change:** sea level rise, changes in river water flow, variable precipitation, and algal blooms from increasing temperatures etc.

DATA BANK

★ India has over 7 lakh wetlands covering ~16 Mha i.e., 4.86% of the total geographic area of the country.



Way Forward

- **Developing a holistic and standardized protocol for monitoring** the ecological condition of wetlands and aquatic ecosystems.
- **Restoration of degraded wetlands** through de-siltation, recharging groundwater aquifers, removal of invasive species, nature-based solutions such as afforestation, etc.
- **Strict implementation of pollution norms** and proper treatment and disposal of waste.
- **Ensuring optimal and sustained water flow** to wetlands that is needed for their functioning.
- **Participatory conservation of wetlands** enabled by capacity building of local communities to ensure sustainable use of wetland resources and minimise encroachment.

Efforts for wetland conservation in India

- **Wetland (Conservation and Management) Rules 2017** to conserve aquatic ecosystems, through implementation of sustainable conservation plans.
- **Establishment of Centre for Wetland Conservation and Management (CWCM) and Wetlands of India Portal.**
- **National Plan for Conservation of Aquatic Eco-systems (NPCA):** It prohibits activities like conversion of wetland for non-wetland uses including encroachment, solid waste dumping, etc.
- **National Mission for Clean Ganga (NMCG):** Under the mission, a scientific and community-based program to develop Health card and management of 10 wetlands in each of the 50 plus Ganga districts was launched.
- **Regulations like-** Water (Prevention and Control of Pollution) Act, 1974, Coastal Regulation Zone (CRZ) Notification, 2019 etc.

5.6.2. TIGER CONSERVATION IN INDIA

TIGER CONSERVATION IN INDIA AT A GLANCE



Key Targets

- ⊖ **Double the number of wild tigers by the year 2022.** (Tx2 initiative adopted in 2010 at the St. Petersburg Tiger Summit)



Achievements of India

- ⊖ **Achieved the targets set under TX2 initiative in 2018** (4 years in advance).
- ⊖ **Increase in Estimated Tiger population** from 1,411 in 2006 to **2,967 in 2018**
- ⊖ **52 tiger reserves (TRs) cover over 75,000 sq. km.**



Schemes/Policies/Initiatives

- ⊖ **Project Tiger** launched in 1973 for in-situ conservation of tigers.
- ⊖ **Statutory body National Tiger Conservation Authority (NTCA)** established through Wild Life (Protection) Amendment Act, 2006.
- ⊖ **Adopting core buffer strategy to manage TRs:** NTCA recently banned new construction in tiger reserves' core areas.
- ⊖ **M-STRIPES (Monitoring System for Tigers Intensive-Protection & Ecological Status)** digital application for regular assessment of Tigers, Co-predators, prey and their habitat.
- ⊖ **Conservation Assured | Tiger Standards (CA|TS) accreditation** for 14 Tiger Reserves in India.
- ⊖ **Expansion of Tiger reserves: Guru Ghasidas National Park of Chhattisgarh** approved to declared as 53rd Tiger Reserve of India.
- ⊖ **Management Effectiveness Evaluation (MEE) Framework** for independent monitoring and the evaluation of tiger reserve as per international standards.
- ⊖ **Special Tiger Protection Force (STPF)** deployed in several TRs for focused anti-poaching operations.



Constraints

- ⊖ **Lack of confidence and trust building between the forest department and the local communities.**
- ⊖ **Low capacity among local forest officials** to effectively conduct surveillance and monitoring.
- ⊖ **Financial constraints** to undertake activities like restoration of habitats.
- ⊖ **Human wildlife conflicts and Retaliatory killings.**
- ⊖ **Habitat loss/fragmentation/degradation** due to land use change, climate change, invasive species etc.
- ⊖ **Other prominent threats:** Inadequate protection to tigers in areas outside TRs; Some TRs nearing carrying capacity; Inbreeding in isolated and small populations; Illegal poaching and wildlife trade; severe loss of natural prey populations, etc.



Way Forward

- ⊖ **Expanding and improving the quality of occupied habitat.**
- ⊖ **Recovery of prey species.**
- ⊖ **Minimisation of human-tiger conflict** through practices like- building outreach systems, compensation policies to cover the financial cost of losing livestock or crops, etc.
- ⊖ **Participatory conservation efforts** through formal dialogue with Indigenous Peoples and local communities.
- ⊖ **Create safe connectivity among habitats** through structural measures and non-structural measures.

5.6.2.1. INDIA'S FIRST INTER-STATE TIGER RELOCATION PROJECT

Why in news?

Tigress shifted as part of India's first inter-state translocation project in 2018 from Madhya Pradesh to Odisha was recently returned home.

About the tiger relocation project

- The project was initiated in 2018 for inter-state translocation of a tigers to **Satkosia Tiger Reserve in Odisha, to increase the tiger population in the state.**
- Two tigers, a male (Mahavir) from Kanha Tiger Reserve and a female (Sundari) from Bandhavgarh from Madhya Pradesh were relocated to Satkosia Tiger Reserve.
- **Reasons for the failure of project-**
 - **Field staff and tiger reserve management were not adequately prepared.**
 - **Capacity for tiger monitoring and protection was poor** (Mahavir's death took place due to poaching).
 - **Local communities were not taken into confidence** nor conveyed the benefits from the project leading to severe protests.
 - **Competition from existing female tigress** in the core area.
 - Non-availability of sufficient prey.

Related news: Project tiger to complete 50 years in 2023

- Project tiger is a **Centrally Sponsored Scheme** of the Ministry of Environment, Forests and Climate Change which **provides central assistance to tiger range States for in-situ conservation** of tigers in designated tiger reserves.
- It was initially launched in 1973 in **9 Tiger reserves (TRs).**
- **Implementing Agency: National Tiger Conservation Authority (NTCA)** was established through Wild Life (Protection) Amendment Act, 2006 to provide statutory authority to Project Tiger.
- **Funding pattern:** Centre provides financial assistance to States of **60% and 50% for expenditure on all non-recurring items and expenditure on recurring items respectively.**
 - North Eastern and Himalayan States are provided 90% central assistance in both cases.

5.6.3. IPBES ASSESSMENT REPORT: SUSTAINABLE USE OF WILD SPECIES

Why in news?

Recently, Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) released report on the **'Sustainable use of Wild Species'**.

More on news

- IPBES Assessment Report **offers insights, analysis and tools to establish more sustainable use of wild species** of plants, animals, fungi and algae around the world.
- It is the **first of its kind** and has been conceived after a period of four years.
- It identifies **five broad categories of 'practices'** in the use of wild species i.e. **fishing, gathering, logging, terrestrial animal harvesting (including hunting), and non-extractive practices** such as observing.

Challenges to sustainable use of wild species

- **Climate change** strongly affects the use of wild species through, changes to mean temperature and precipitation, the impacts of increased frequency and intensity of hydro-meteorological events, changes in spatial distribution, productivity and habitats etc.
- **Increasing demand and technological advances** leading to destruction of ecological habitats and depletion of natural resources.
- **Overexploitation (unsustainable harvest of species from the wild)** putting species on an extinction pathway.
- **Expansion of illegal harvesting and trade** of wild species across the globe.
- **Expansion and intensification of agriculture** (production of food, fodder, fibre and fuel crops; livestock; aquaculture; and cultivation of trees) has led to loss of wild species.
- **Unsustainable tourism** can lead to **soil erosion, increased pollution, natural habitat loss, etc.**

DATA BANK

An estimated 12% of wild tree species are threatened by unsustainable logging

SIGNIFICANCE OF SUSTAINABLE USE OF WILD SPECIES

- Human Dependence on wild species** for food, energy, medicine, material and other purposes.
- Contributes to the livelihoods of indigenous people and local communities** through subsistence, as well as trade in informal and formal markets.
- Critical to reversing the global trend in biodiversity decline.**

Recommendations of report

- **Effective regulation across supply chain from local to global.**
- **Promote sustainable use of wild species** through following key elements-
 - **Inclusive and participatory decision making.**
 - **Robust institutions** from customary to statutory.
 - **Ensuring fair & equitable distribution** of costs & benefits.
 - **Monitoring of wild species**, social-ecological conditions and practices.
 - Recognising and supporting multiple forms of knowledge.
- **Cooperation among scientists and indigenous peoples.**
- **Transformative changes:** For instance, in fishing sector sustainable use requires **fixing current inefficiencies, reducing illegal, unreported, and unregulated fishing** and **suppressing harmful financial subsidies** that contribute to overcapacity and overfishing in marine systems, **adapting to changes in oceanic productivity** due to climate change and proactively creating effective transboundary institutions.
- **Technological innovations to enhance efficiency and reduce waste.**

Policy Conditions Affecting the Sustainable use of Wild Species

Enabling
More Sustainable
<ul style="list-style-type: none"> <li style="width: 50%;">● Is adaptive and democratic <li style="width: 50%;">● Is inclusive and participatory <li style="width: 50%;">● Ensures robust institutions <li style="width: 50%;">● Recognizes plural knowledge & values <li style="width: 50%;">● Is tailored to context <li style="width: 50%;">● Shares benefits equitably <li style="width: 50%;">● Aligns broader policies
Constraining
Less Sustainable
<ul style="list-style-type: none"> <li style="width: 50%;">● Ignores history <li style="width: 50%;">● Criminalizes marginalised <li style="width: 50%;">● Ignores rights <li style="width: 50%;">● Creates power imbalances <li style="width: 50%;">● Overlooks social context <li style="width: 50%;">● Over-relies on laws and rules <li style="width: 50%;">● Mismatches scale

5.6.4. PROPOSED AMENDMENTS IN ENVIRONMENT PROTECTION ACT

Why in news?

Ministry of Environment, Forests and Climate Change (MoEF&CC) sought feedback on the proposal to **decriminalize the existing provisions of the Environment Protection Act, (EPA) 1986.**

About EPA, 1986

- It was enacted **under Article 253** of the **Indian Constitution** to take appropriate steps for the protection and improvement of the human environment based on the **UN Conference on the Human Environment at Stockholm, 1972.**
 - It established the framework for **long-term environmental safety** and laid down a system of **speedy and adequate response** to situations threatening the environment.

Proposed Amendments

- Continue with criminal provisions of **Indian Penal Code, 1860** for **serious violations** while failure or contravention or non-compliance for smaller issues can be dealt by penalties.
- Increase in penalty amount to **₹5 lakh** which may extend to **₹5 crore.**
- For **continued violations** beyond a **period of one year** the penalty shall not be **less than ₹50,000 crore per day;** which may extend to **₹5 lakh.**
- Creation of **Environment Protection Fund** under **Section 17A** of **EPA, 1986** for payment of penalties imposed by the **Adjudicating Officer** for environment damages.
- Insertion of **Section 15D** to allow aggrieved persons to appeal to the **National Green Tribunal.**

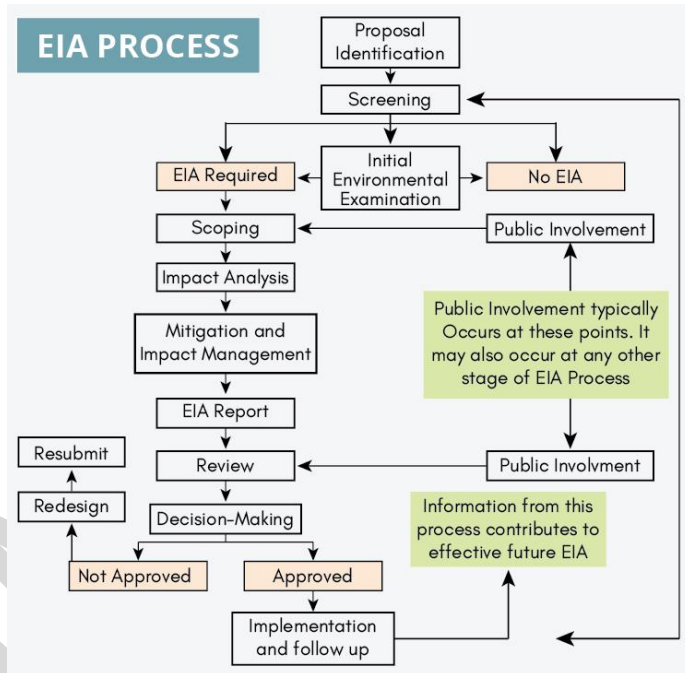
5.6.5. AMENDMENTS TO ENVIRONMENTAL IMPACT ASSESSMENT (EIA) RULES

Why in news?

Centre has notified amendments to EIA rules.

About Environmental Impact Assessment (EIA)

- It is the process or study which-
 - predicts** the effect of a proposed industrial/infrastructural project on the environment.
 - prevents** the proposed activity/project from being approved without proper oversight or taking adverse consequences into account
 - compares** various alternatives for a project and seeks to identify the one which represents the best combination of economic and environmental costs and benefits.
- Any project requiring environmental clearance, first needs to undergo a **thorough screening and scoping process by the regulatory authorities** and thereafter a draft EIA report is sent for public consultation.
- India notified its first EIA norms in 1994, under the Environment (Protection) Act (EPA), 1986, setting in place a legal framework for regulating activities that access, utilise, and affect (pollute) natural resources.
- The 1994 EIA notification was replaced with a modified draft in 2006.



Proposed amendments

- Exempts highway projects related to defence and strategic importance within 100 km of Line of Control or border from requirement of environmental clearance.
- Increases exemption threshold of biomass-based power plants which use auxiliary fuels such as coal, lignite or petroleum products up to 15% and fish handling capacity of ports and harbours which exclusively handle fish.
- Exempts projects pertaining to expansion of terminal buildings at airports (without an increase in existing area of airport) from seeking green nod.

5.6.6. NATURAL RESOURCE ACCOUNTING (NRA)

Why in news?

Government Accounting Standards advisory board (GASAB) released a concept paper on Natural Resource Accounting (NRA).

About Natural Resource Accounting (NRA)

- NRA is an accounting system that deals with stocks and stock changes of natural assets, comprising biota (produced or wild), subsoil assets (proved reserves), water and land with their aquatic and terrestrial ecosystems.
 - The asset accounts capture details of 34 major minerals, 58 minor minerals and all four fossils fuels.
- Its aim is to provide information on the state of natural resources and the changes affecting them.

Key highlights of the proposed NRA

- The format of NRA has been designed in keeping with the prescriptions of System of Environmental-Economic Accounting central framework (SEEA-CF), which allows flexibility to embed country specific needs.



- Proposed by the UN, SEEA-CF is an **international statistical standard** for measuring the **environment** and its relationship with the **economy**.
- Provides for standard operating procedures to **ensure automated collection and compilation of data from 2022-23**.
- Calls for bringing **private players under the overall framework of NRA** by proposing specific reporting requirements.
- It has also **set up short-, medium- and long-term goals that span 10 years (2020-30)** and converge with sustainable development goals (SDGs) set by the UN General Assembly (2015-30).

5.7. DISASTER MANAGEMENT

5.7.1. LANDSLIDES IN INDIA

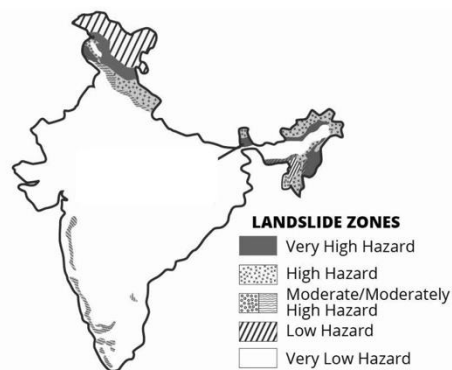
LANDSLIDES IN INDIA AT A GLANCE

Landslide is defined as the movement of a mass of rock, debris, or earth down a slope.



Major causes of landslides

- ⊖ **Geological:** Weak or fractured earth or rock.
- ⊖ **Morphological:** Slopes that lose their vegetation to fire or drought are more vulnerable.
- ⊖ **Human Activity:** Deforestation, excavation etc.
- ⊖ **Triggering factors:** Heavy rainfall or earthquake tremors



Indias vulnerability to landslide

- ⊖ **About 12.6% of land area in India** (0.42 million sq. km), excluding snow covered area, is prone to landslide hazard.
- ⊖ Landslide prone regions in India include **Himalayan region** (due to high seismicity due to plate tectonic movement etc.) and **Western Ghats** (due to concentrated rainfall, overburdening of hills etc.).



Schemes/Policies/Initiatives

- ⊖ **Landslide Early Warning System (LEWS)** by GIS under LANDSLIP project.
- ⊖ Geological Survey of **Indias landslide susceptibility mapping** in different parts of the country.
- ⊖ National Disaster Management Authority (NDMA) guidelines for **Landslide Hazard Zonation**.



Impacts

- ⊖ Restricts human movement and **creates a traffic barrier on highway and railway lines**.
- ⊖ **Loss of human lives and infrastructure**.
- ⊖ **Financial burden for rebuilding infrastructure** to rehabilitate the masses.
- ⊖ **Increased risk of floods**.



Way forward

- ⊖ **Increase in forest cover** in community lands.
- ⊖ **Store excess water** in catchment areas to reduce the effect of flash floods and recharge groundwater levels.
- ⊖ **Restrict the grazing of animals and reduce urbanisation activities** such as building dams or other commercial projects.
- ⊖ **Early Warning systems and evacuation plans**.

5.7.2. GLOBAL PLATFORM FOR DISASTER RISK REDUCTION (GP2022)

Why in news?

Recently, the **seventh session of the GP2022** was organized by the **UN Office for Disaster Risk Reduction (UNDRR)** in Bali, Indonesia.

About GP2022

- GP2022 is the **main global forum to assess and discuss progress** on the **implementation of the Sendai Framework** for Disaster Risk Reduction.
- **Key takeaways of GP2022** outcomes as summarised in the **Bali Agenda for Resilience:**
 - **Need for a whole-of-society approach to disaster risk reduction (DRR)**, ensuring no one is left behind.
 - **DRR must be at the core of development and finance policies**, legislation and plans to achieve the 2030 Agenda for Sustainable Development.
 - A **participatory and human rights-based approach in DRR planning** and implementation is crucial as people are affected differently by disasters.
 - **DRR and climate change adaptation have the common objective** of reducing vulnerability and enhancing capacity as well as resilience.

5.8. GEOGRAPHY AND MISCELLANEOUS

5.8.1. COASTLINE EROSION

Why in news?

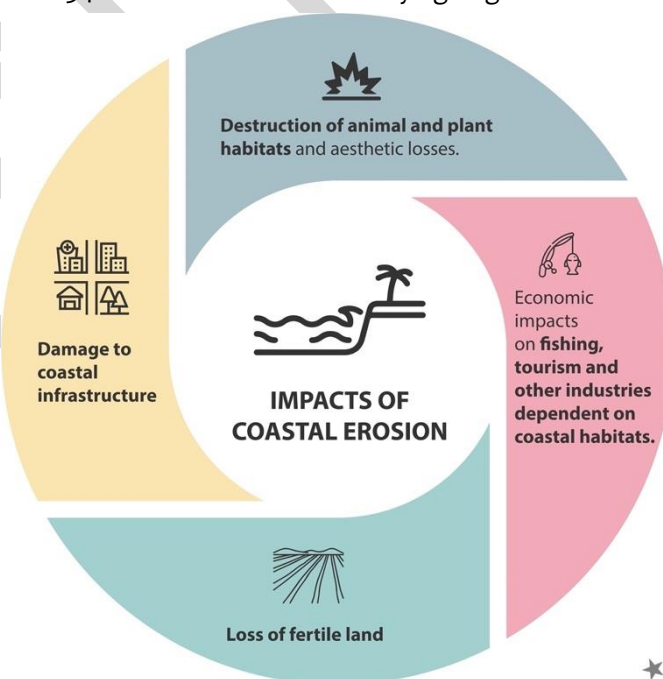
Ministry of Earth Science (MoES) recently informed that **34% of coastline** is under varying degrees of erosion for past 28 years.

More on the news

- **National Centre for Coastal Research (NCCR)**, an attached office of MoES is **monitoring shoreline erosion since 1990**, using **remote sensing data and geographic information system (GIS) mapping techniques**.
 - **Totally, 6907.18 km long coastline of mainland has been analysed** for period from 1990 to 2018.
 - **26% is of coastline** is of an **accreting nature**, and 40% is in stable state.
 - **West Bengal suffered most erosion** followed by Kerala, Tamil Nadu, and Gujarat.

About Coastal Erosion

- Coastal erosion can be **defined as the long-term removal of sediment and rocks along the coastline** due to natural processes like wave action, tides, currents, wind-driven water etc.
 - According to **'National Assessment of Shoreline Changes along Indian Coast'** by NCCR, **human activities like construction of coastal structures, beach sand mining, offshore dredging etc.** have also triggered coastal erosion.
- **Measures taken to prevent coastal erosion**
 - Indian National Centre for Ocean Information Services (INCOIS) has carried out **Coastal Vulnerability Index (CVI)** mapping to assess implications of sea-level rise along Indian coast.
 - **Integrated Coastal Zone Management Plan (ICZM)** to ensure optimum sustainable use of coastal natural resources.
 - **National Centre for Sustainable Coastal Management (NCSCM)**, Chennai to research in area of CZM including coastal resources and environment.



5.8.2. ARIDITY ANOMALY OUTLOOK INDEX

Why in news?

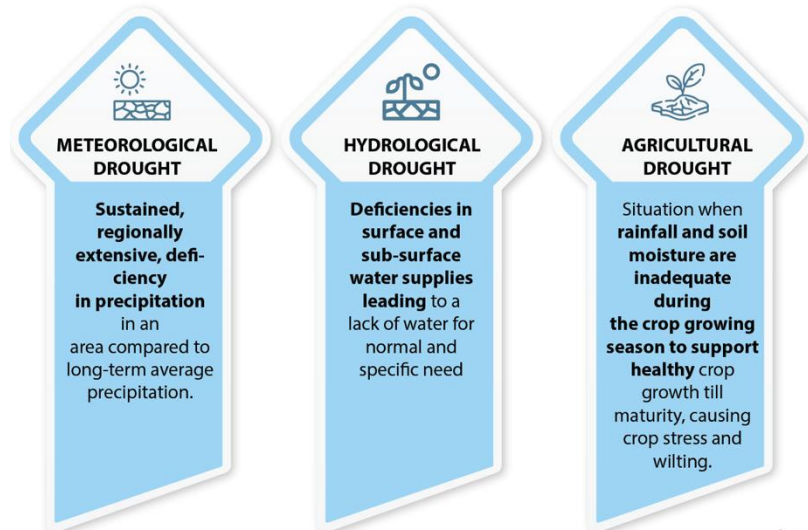
At least 85% of districts were facing arid conditions across India, according to the Aridity Anomaly Outlook Index for July, issued by India Meteorological Department (IMD).

Anomaly of Aridity Index	Agricultural Drought Intensity
1 – 25	Mild
26 – 50	Moderate
> 50	Severe

About Aridity Anomaly Outlook Index

- **Aridity Anomaly Index** is the departure of aridity index value from normal (expressed in percentage).
 - Aridity Index refers to the water stress suffered by a growing plant due to shortage of available moisture (both rainfall and soil moisture), calculated as the percentage of annual water deficit to annual water need or annual potential evapotranspiration.
- Based on the index, IMD prepares weekly aridity Anomaly maps/reports which help to assess the moisture stress experienced by growing plants and to monitor agricultural drought situation in the country.
 - These reports are used by State and Central Government agricultural authorities and Research Institutes for Agricultural Planning purposes.
- **Key findings of the index:**
 - Only 63 of 756 districts were non-arid, while 660 were facing different degrees of aridity — mild, moderate and severe.
 - Some 196 districts are facing a ‘severe’ degree of dryness and 65 of these are in Uttar Pradesh.
 - Bihar had the second highest number of districts (33) experiencing arid conditions.

CLASSIFICATION OF DROUGHT BY NATIONAL COMMISSION ON AGRICULTURE



DATA BANK

About 69% of India is dry land – arid, semi-arid and dry sub-humid.

About Aridity

- Arid Lands are "the lands where the amount of water lost due to evaporation or transpiration from plants is greater than the amount of the rainfall".
- **Arid regions in India:** They comprise largely of the desert of Rajasthan, the Rann of Kutch and the semi-arid regions of Punjab and Gujarat, rain shadow of the Western Ghats covering states of Maharashtra, Karnataka and Tamil Nadu.
- **Challenges:** Water scarcity- groundwater tables are low, rainfall is low and the water run-off is high, extreme vulnerability to climate variability etc.
- **Steps to make arid land resilient:** Crop diversification, cultivation of traditional varieties, intercropping, mulching, micro-irrigation, etc.
- **Scheme:** Drought Prone Area Programme (DPAP), National Rural Drinking Water Programme (NRDWP)
- **Differences between drought and aridity:**
 - Drought is a recurrent and temporary aberration, unlike aridity which is a permanent feature of climate.
 - Aridity is restricted to low rainfall areas, but drought can occur under all climatic regimes and its spread and severity is contingent on several factors, including the status of surface and ground water

resources, agro-climatic features, cropping choices and patterns, socio-economic vulnerabilities of the local population etc.

5.8.3. ACCESS TO CLEAN AND HEALTHY ENVIRONMENT AS UNIVERSAL HUMAN RIGHT

Why in news?

United Nations General Assembly (UNGA) declares access to clean and healthy environment as Universal Human Right.

More on the news

- **India has voted in favour of a UNGA resolution** that recognizes the right to a clean, healthy and sustainable environment as a human right.
 - The resolution also noted **that the right to a healthy environment is related to existing international law** and affirms that its promotion requires the full implementation of multilateral environmental agreements.
 - It is **not legally binding**.
 - It was **not included in the Universal Declaration of Human Rights, 1948**.
- Earlier in 2021, the **UN Human Rights Council in Geneva** passed a resolution recognizing access to a healthy and sustainable environment as a universal right.
 - 50 years ago, the United Nations Conference on Environment in **Stockholm concluded in 1972 with a resolution placing environmental issues at global forefront**.

Constitutional provisions relating to Environment and Human Rights

Article 21 

Guarantees fundamental right to life. Right to an environment, free of danger of disease and infection is inherent in it.

Article 48 A 

State shall endeavour to protect and improve the environment and to safeguard forests and wildlife of the country.

Article 51-A (g) 

Duty of every Indian citizen to protect and improve the natural environment.

Significance of resolution

- Help to **reduce environmental injustices and protection gaps**.
- **Empower people**, especially those in vulnerable situations, including environmental human rights defenders, children, youth, women and indigenous people.
- Crucial to **tackle the triple planetary crisis** of climate change, biodiversity loss and pollution.
- **Help States to accelerate the implementation of their environmental and human rights obligations and commitments**.

5.9. UPDATES

5.9.1. INDIA UPDATES ITS NDCS

- Cabinet recently **approved India's Updated Nationally Determined Contribution (NDC)** to be communicated to the United Nations Framework Convention on Climate Change (UNFCCC).
- **About India's NDCs**
 - India submitted its first NDC to UNFCCC in 2015.
 - The 2015 NDC comprised eight goals; three of which have quantitative targets upto 2030 with respect to **reduction of emissions intensity, increasing the share of non-fossil fuels in installed electricity capacity and creation of additional carbon sink** through additional forest and tree cover.

What are nationally determined contributions (NDCs)?

- The Paris Agreement requests each country to outline and communicate their **post-2020 climate actions**, known as their NDCs.
- Together, these climate actions determine whether the world achieves the long-term goals of the Paris Agreement i.e. to **limit global warming** to well below 2°Celsius, preferably to 1.5°Celsius, compared to pre-industrial levels
- They are **submitted every five years to the UNFCCC secretariat**.
- Earlier, '**Glasgow Climate Pact**', signed by the countries during the 26th Conference of the Parties (COP), of UNFCCC had **requested Parties to revisit and strengthen the 2030 targets in their NDCs by the end of 2022**.

- **About updated NDCs:**
 - It represents the framework for India's transition to cleaner energy for the **period 2021-2030**.
 - The new NDCs have **updated two of the three quantitative targets of 2015 NDCs** related to emissions intensity and share of non-fossil fuels in installed electricity capacity.
 - They have been prepared after carefully considering India's **national circumstances** and the principle of **common but differentiated responsibilities and respective capabilities** (CBDR-RC).
 - It also puts forward and further propagates a **healthy and sustainable way of living** based on traditions and values of conservation and moderation, including through a mass movement for **'LIFE'–'Lifestyle for Environment'** as a key to combating climate change.



India's NDCs: Existing, Updated and their Progress

	Targets for 2030	Existing NDC, 2015	Updated NDC, 2022	Progress
	Reduction in the emissions intensity of GDP	By 33 to 35% compared to 2005 levels	By 45% compared to 2005 levels	Estimated reduction of 28% over 2005 levels
	Cumulative electric power installed capacity from non-fossil fuel-based energy resources	40%	50%	41.5% achieved by end of June, 2022
	Creation of additional carbon sink through additional forest and tree cover	2.5 to 3 billion tonnes of CO ₂ equivalent	Same as earlier	Not clear

5.9.2. PARLIAMENT PASSED THE INDIAN ANTARCTIC ACT, 2022

- The Act seeks to give effect to the **Antarctic Treaty, the Convention on the Conservation of Antarctic Marine Living Resources, and the Protocol on Environmental Protection** to the Antarctic Treaty.
- **Key Provisions**
 - **Prohibit Indian expedition to Antarctica without permit** or written authorisation of another party to Antarctic Treaty.
 - **Provides for the constitution of the fund to be called the Antarctic fund** which shall be applied towards the welfare of Antarctic research work and protection of Antarctic environment.
 - **Establishes Committee on Antarctic Governance and Environmental Protection** to monitor, implement and ensure compliance with international laws, emissions standards and perform functions like granting permits etc.

- Extend jurisdiction of Indian courts to Antarctica and lays out penal provision for crimes on the continent by Indian citizens, foreign citizens who are part of Indian expeditions.
- Prohibits activities like mining, dredging etc. that threaten pristine conditions of Antarctica.

5.9.3. LOK SABHA PASSED THE WILDLIFE (PROTECTION) AMENDMENT BILL, 2021

- The bill seeks to amend Wild Life (Protection) Act, 1972 which regulates protection of wild animals, birds and plants.
- Key provisions
 - Compliance with CITES - central government to designate a Management Authority (grants permits for trade) and Scientific Authority (gives advice on aspects related to impact on survival of specimens being traded.)
 - Rationalising schedules from 6 to 4: Specially protected animals (2), plants (1), new schedule for specimens under CITES, removes schedule for vermin.
 - Invasive alien species - Empowers central government to regulate or prohibit import, trade, possession or proliferation of invasive alien species.
 - Control of sanctuaries- Entrusts Chief Wild Life Warden to control, manage and maintain all sanctuaries in a state.
 - Conservation reserves – state/central governments may declare areas adjacent to national parks and sanctuaries as a conservation reserve, for protecting flora and fauna.
 - Surrender of captive animals – provides for any person to voluntarily surrender any captive animals or animal products to the Chief Wild Life Warden.

“ The Secret To Getting Ahead Is Getting Started ”



ALTERNATIVE CLASSROOM PROGRAM *for*

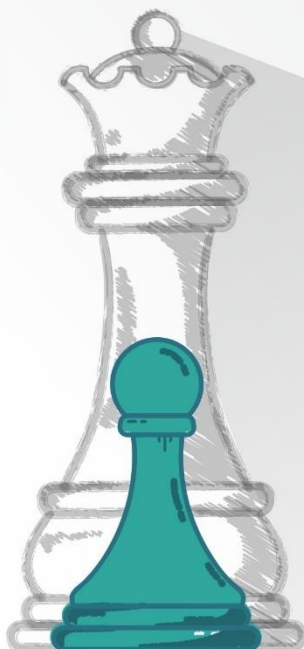
GENERAL STUDIES

PRELIMS & MAINS 2024 & 2025

DELHI: 30 AUG, 9 AM | 19 AUG, 1 PM | 5 AUG, 9 AM
26 JULY, 1 PM | 17 JULY, 5 PM | 7 JULY, 1 PM

- Approach is to build fundamental concepts and analytical ability in students to enable them to answer questions of Preliminary as well as Mains examination
- Includes comprehensive coverage of all the topics for all the four papers of GS Mains, GS Prelims and Essay
- Includes All India GS Mains, Prelims, CSAT and Essay Test Series of 2023, 2024, 2025
- Our Comprehensive Current Affairs classes of PT 365 and Mains 365 of year 2023, 2024, 2025 (Online Classes only)
- Includes comprehensive, relevant and updated study material
- Access to recorded classroom videos at personal student platform

Scan the QR CODE to download VISION IAS app



6. SOCIAL ISSUES

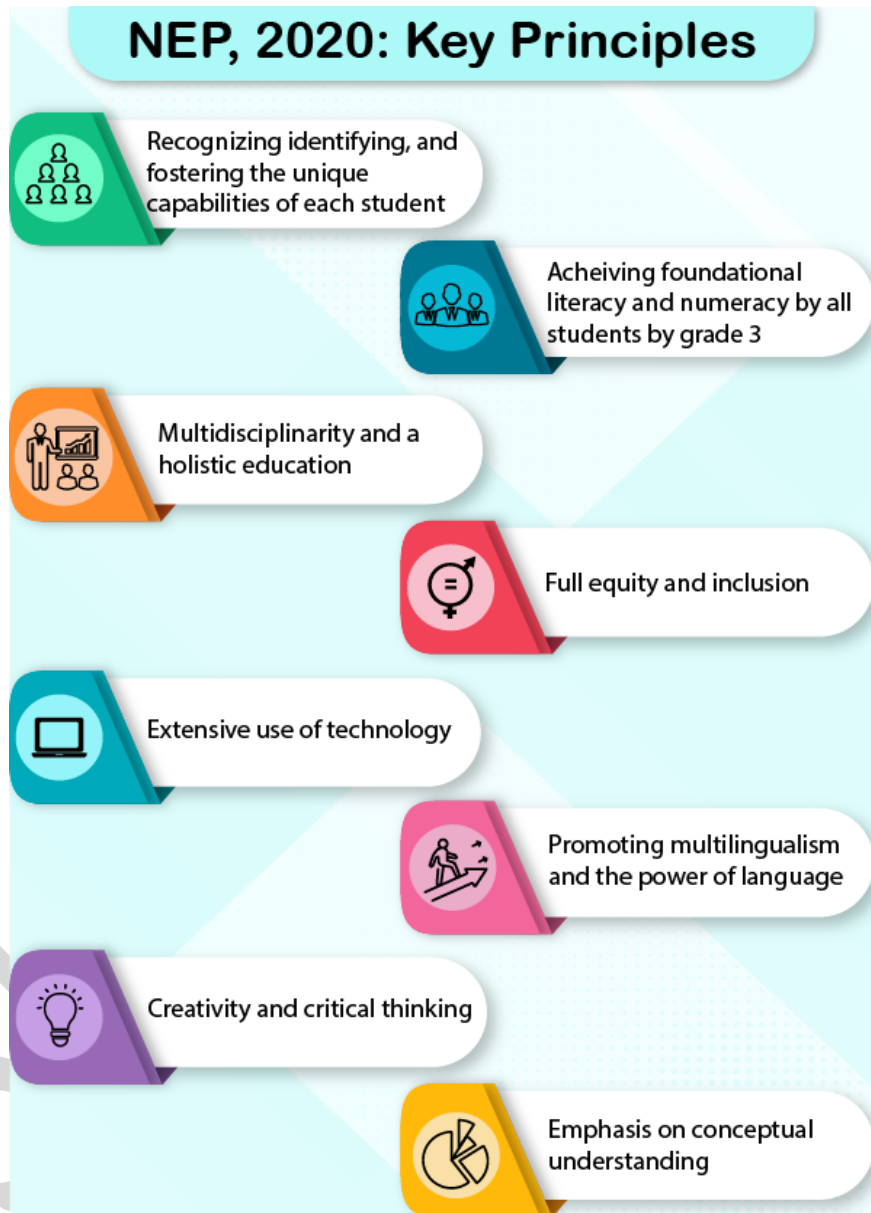
6.1. NATIONAL EDUCATION POLICY (NEP), 2020

Why in news?

Recently, the Union Minister of Home Affairs launched several initiatives on the second anniversary of the National Education Policy (NEP) 2020.

Key initiatives launched

- **Establishment of IKS-MIC program for technology demonstration** to promote development of products, processes inspired and developed from the Indian's traditional knowledge systems.
- **National innovation and entrepreneurship policy** to foster the culture of Ideation, Innovation, and Entrepreneurship (IIE) in schools.
- **Skill India Partnership with IGNOU** for the three-year degree programme and **Skill Hubs** under **Pradhan Mantri Kaushal Vikas Yojana**.
- **750 virtual labs in science and mathematics, and 75 skilling e-labs** for simulated learning environment, will be set-up in 2022-23.
- **100+ National Skills Qualifications Framework (NSQF)** aligned future skill qualifications to be developed under various areas.
- **National Initiative for School Heads and Teachers Holistic Advancement (NISHTHA) ECCE:** To prepare an initial cadre of high quality early childhood care and education (ECCE) Teachers in Anganwadis.
- **Introduce 75 Bharateeya games in schools:** Each month, a seasonally appropriate Bharateeya game will be introduced in schools through the PT teachers.
- **Public Consultation Survey for NCF:** To conduct a Public Consultation survey in 23 languages to seek inputs and suggestions for the development of the NCF with a target respondents/ citizen of 1 Crore.



New Education Policy, 2020 Key Specification



FOR SCHOOL

From 10+2 to 5+3+3+4:

Current 10+2 structure in which policy covered schooling from class 1 to 10 (age 6-16) & class 11-12 (16-18) gives way to 5 years of foundational education, 3 of preparatory, 3 of middle & 4 years of secondary schooling

Multi-Stream:

Flexibility to choose subjects across streams; all subjects to be offered at two levels of proficiency

Diluted board:

Board exams to test only core competencies; could become modular (objective & subjective) & will be offered twice a year

Multilingual:

3 Language policy to continue with preference for local language medium of instruction till class 8

Bag-less days:

School students to have 10 bag-less days in a year during which they are exposed to a vocation of choice (i.e informal internship)



FOR COLLEGES

SAT like college test:

National testing agency to conduct common college entrance exam twice a year

4-Year bachelor:

4-Year multi-disciplinary bachelor's programme to be preferred; mid-term dropouts to be given credit with option to complete degree after a break

No affiliation:

Over next 15 years colleges will be given graded autonomy to give degrees, affiliation with universities to end, so would deemed university status

Fee cap:

Proposal to cap fee charged by private institutions of higher learning

Going global:

Top-rated global universities to be facilitated to come to India, top Indian institutions to be encouraged to go global



About NEP, 2020

- It was launched to **replaces NEP, 1986** (modified in 1992) with an aim of **transforming India into a vibrant knowledge society and global knowledge superpower** by making both school and college education more holistic, flexible, multidisciplinary, suited to 21st century needs.
- Built on the foundational **pillars of Access, Equity, Quality, Affordability and Accountability**, this policy is aligned to the **2030 Agenda for Sustainable Development**.

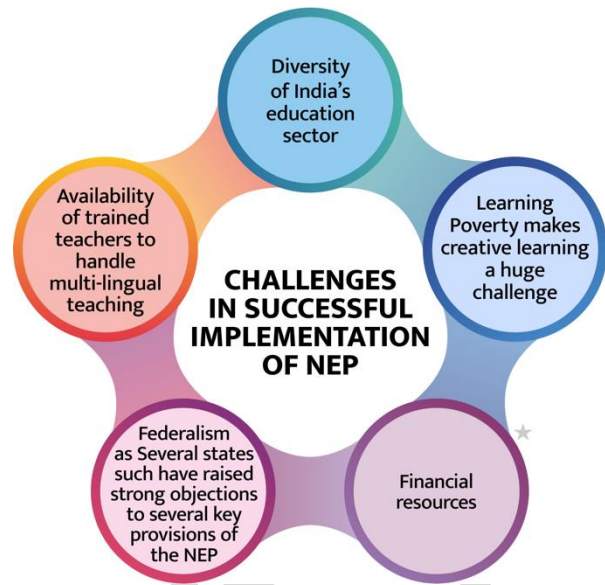
Initiatives taken so far under the NEP, 2020

- School Education:** Formulation of National Curriculum Framework is in progress. Initiatives like quality ECCE in Balvatika, NIPUN Bharat, Vidya Pravesh, examination reforms and innovative pedagogies like Art-Integrated Education, toy-based pedagogy are being adopted for better learning outcomes
- Promotion of Indian Languages:** NTA has conducted the JEE exam in 13 languages. AICTE has developed an AI-based translation App and study material is being translated into Indian languages.
- Multi Modal Education:** SWAYAM, DIKSHA, SWAYAM PRABHA, Virtual Labs and other online resource portals are providing study materials in multiple Indian languages including sign language.
- Multidisciplinary in Higher Education:** Multiple Entry-Exit for flexibility and lifelong learning, along with the launch Academic Bank of Credit on Digilocker platform. UGC has allowed pursuance of two academic programmes simultaneously.
- Innovation and Start Up:** Atal Ranking of Institutions on Innovation Achievement (ARIIA) aligned with NEP has been launched in 2021 for creating a culture of research, incubation, and start-ups.

Way ahead

- Financial resources:** **Leveraging** CSR funding, waving tax on donation, allowing India's Higher Educational Institutions to establish 'endowment funds' and have stakes in multinational corporation in line with Harvard and MIT.

- **Participative approach:** Creating a shared responsibility and ownership amongst key stakeholders, including the private sector, at the state, district, sub-district, and block level for the implementation of NEP.
- **Regulatory body:** Establish Higher Education Commission of India (HECI) as proposed in NEP forth with.
- **National Education Ministers’ Council:** This body could be constituted in line with GST Council, to act as a forum to discuss and address implementation issues.
- **Regulating Private sector:** Create workable institutional mechanisms that would harness the contribution of the private sector and recognise them as equal partner in the NEP process.
- **Bridging the Post-pandemic Learning Gap:** Special focus should be given to children particularly school kids who are lagging on learning curve.



6.1.1. QUALITY OF HIGHER EDUCATION IN INDIA

Why in news?

Recently the Parliamentary standing committee on Education, Women, Children, Youth and Sport submitted a report on ‘review of education standards, accreditation process, research, examination reforms and academic environment’.

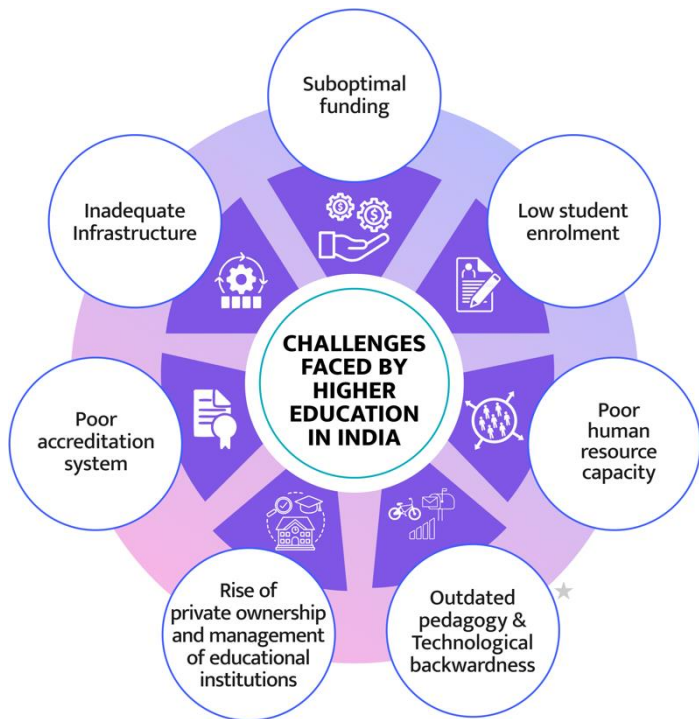
Key initiatives for improving quality of higher education in India

- **National education Policy (NEP) 2020:** It aims at making “India a global knowledge superpower”.
- **SWAYAM-** India’s own MOOCs platform offering free online courses on almost all the disciplines.
- **Higher Education Financing Agency (HEFA), 2018,** a joint venture of MoE and Canara Bank aims to leverage funds from the market, donations, and CSR funds to be used to finance improvement in infrastructure in top institutions.
- **Revitalising Infrastructure and Systems in Education (RISE) scheme** funded by HEFA aims at Increased investments in research and related infrastructure in premier educational institutions.
- **Prime Minister’s Research Fellows (PMRF) Scheme** to enhance the quality of technical research.
- Attracting international faculty through schemes like **GIAN (Global Initiative of Academic Networks)** and **VAJRA (Visiting Advanced Joint Research)**.

DATA BANK

As per the All India Survey of Higher Education (AISHE), there are **1,043 universities, 42,343 colleges and 11,779 standalone institutions.** Out of these, almost 78.6% are in the private sector.

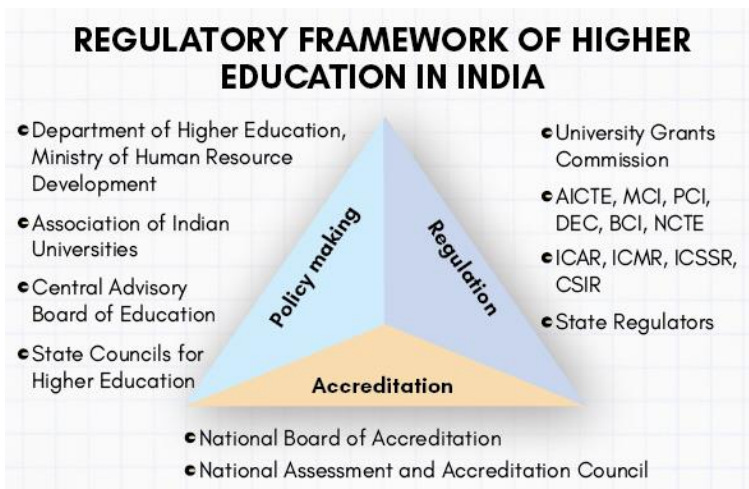
Gross Enrolment Ratio (GER) in higher education in India is at 27.1% for 2019-20 against the **global average of 36.7%.**



- **Study in India program** seeks to endorse India as a prime education hub for international students.

Way ahead

- **Financing:** Gradually enhance public spending up to 6% of GDP as mandated by the NEP, 2020. **Donations** by individuals, alumni and institutions” should be **100% tax deductible**.
 - **Education should be treated at par with the infrastructure** sector to facilitate access to banks, financial institution loans as priorities.
 - **Industry academia collaboration** to bring funding from corporate sector.
- **Pedagogy:** There should be a permanent mechanism to review and update curriculum. Also, explore the possibility of using established satellite technologies for providing uninterrupted education in hybrid format, now called as **Phygital (Physical plus Digital)**.
- **Accreditation:** Provide incentives to bring more institutions under accreditation system is the need of the hour. Reduce the multiplicity and centralisation.
- **Regulatory reforms:** A Single Window System to be evolved to expedite approval from various regulatory authorities which Private/ Deemed/ other Universities are required to obtain.
 - **For Edtechs, revamp the norms for starting online courses** and regulatory bodies need to be updated to bring them in tune with the current best practices.
- **Supporting innovators:** Evolve a mechanism to allow innovators and incubators to participate in the bidding process in response to Govt tender. A window of opportunity to such innovators and entrepreneurs alone will help them sustain in the face of tough competition.
- **Enhancing quality of faculties:** Academic planning, recruitment methodologies including headhunting, retention strategies, etc. need to be improved.
- **Institutional leadership programmes:** Evolve structured academic programmes at different levels for building the decision-making capacities of Vice Chancellors, Principals and Governing Body members of HEIs.



Mains 365 - Updated Study Material

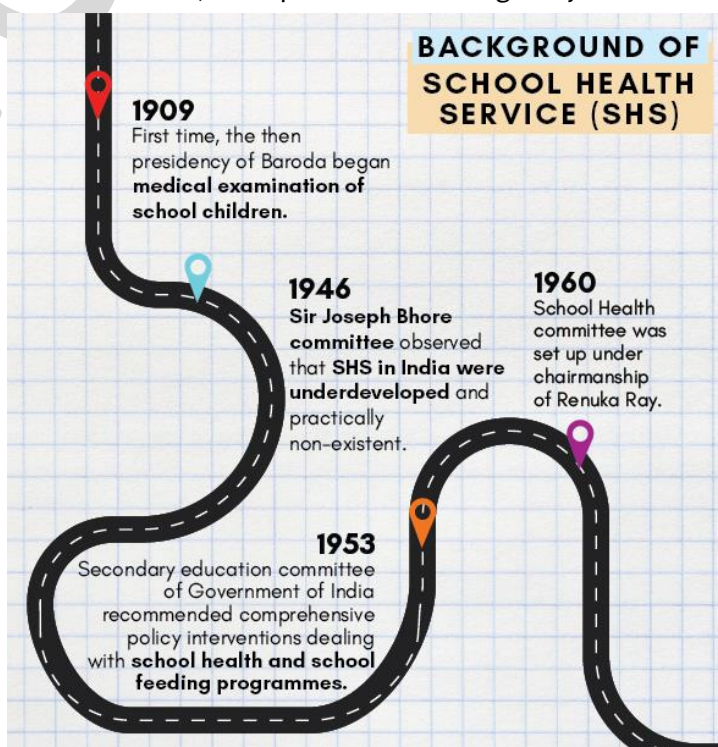
6.1.2. SCHOOL HEALTH SERVICES

Why in news?

Recently, after prolonged closure in the wake of the COVID-19 pandemic, children across India are back to school for in-person classes.

About School Health Services

- As per **World Health Organisation (WHO)**, SHS are **services provided by a health worker to students enrolled in primary or secondary education**, either within school premises or in a health service situated outside the school.
 - SHS should be designed **based on local need assessment**; should have components of health promotion, health education, screening leading to care and/or referral and support as appropriate.

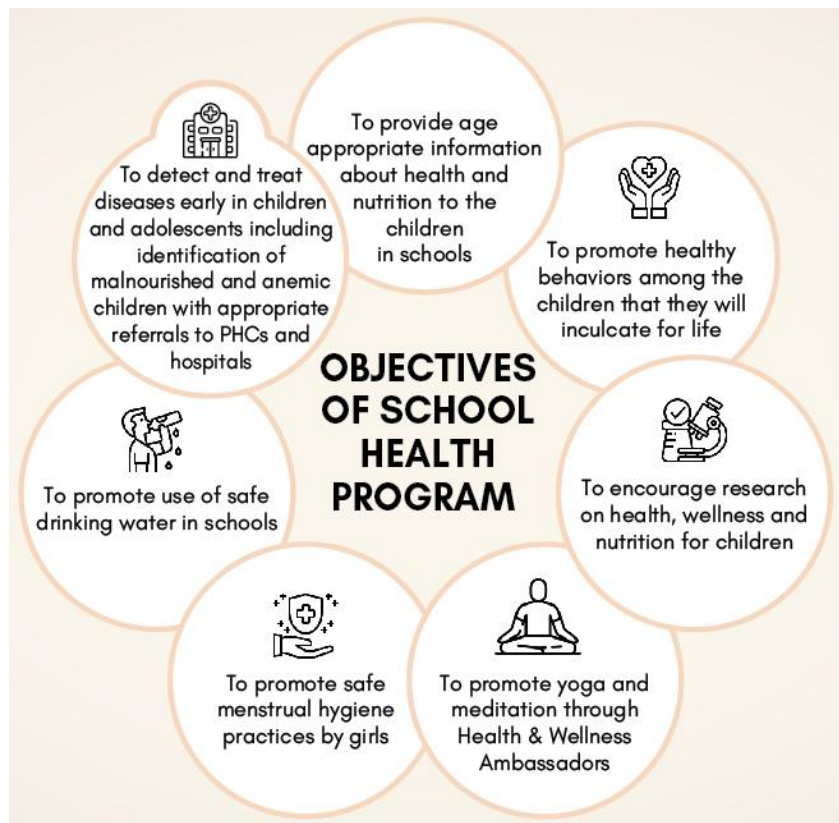


Issues with School Health Services

- **Inadequate policy:** School health services receive inadequate policy attention because health-care needs are often equated with medical care needs.
- **Lack of knowledge:** Due to **limited understanding and clarity** on what constitutes well-functioning and effective SHS.
- **Budgetary constraints:** Budget constraints have led to the **elimination of school nursing** in some school districts.

Steps taken to promote School health Services

- **Focusing Resources on Effective School Health (FRESH):** It is an inter-agency framework published by UNESCO, UNICEF, WHO and World Bank. **It proposes four core areas and three supporting strategies.**
 - Core areas suggest that **SHS need to focus on school health policies**, i.e., water, sanitation and the environment; skills-based health education and school-based health and nutrition services.
 - Supporting strategies include **effective partnerships between education and health sectors, community partnership** and student participation.
- **National Health Policy (NHP) 2017:** It incorporates health education as part of the curriculum, promoting hygiene and healthy practices within the school.
- **National Education Policy, 2020:** All school children shall undergo **regular health check-ups especially for 100% immunization** and health cards will be issued to monitor the same.
- **School Health Program (SHP):** It is **under Ayushman Bharat** to provide **age-appropriate information about health and nutrition** to the children in schools.



SHS METHODS TO SUPPORT STUDENTS

	<p>Acute and Emergency care School nurse is only health professional who is formally trained to respond to a medical crisis/emergency.</p>
	<p>Care Coordination Care coordination can provide students with chronic health conditions (asthma, diabetes, epilepsy) with improved medical management.</p>
	<p>Family Engagement SHS can engage families of all students so that they are aware of services available at school and how they can benefit their children.</p>
	<p>Chronic Disease Management Schools can help students with chronic health conditions by providing services through school nurse or at a school-based health center.</p>

Way forward

- **Strengthen SHS:** Every Indian State needs to **review the status and then draw up a roadmap to revamp and strengthen SHS**, along with a detailed timeline and dedicated budgetary allocation.
- **Focus on comprehensive services:** Build upon the existing school health infrastructure for providing **comprehensive, preventive, promotive and curative services** with a functioning referral linkage. Health talks (adolescent sexual health, menstrual hygiene etc.) by schoolteachers needs to be promoted.
- **Other initiatives:** Inclusion of private schools in SHS, Online consultation, de-stigmatise mental health issues, parents' participation, etc.

6.1.3. ARTIFICIAL INTELLIGENCE IN EDUCATION

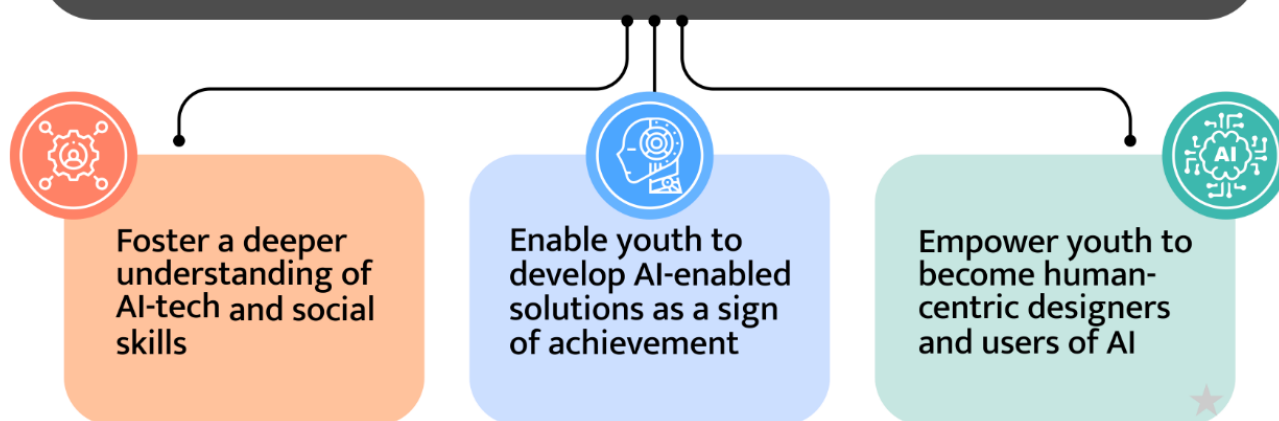
Why in news?

The Union Ministry of Electronics & IT launched 'Responsible AI for Youth 2022'.

More on the news

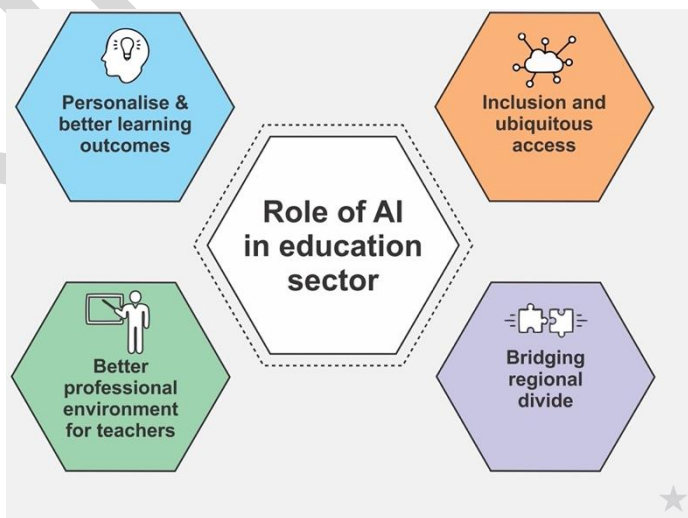
- Responsible AI for Youth was created by the National E-Governance Division, **Ministry of Electronics & IT** in collaboration with **Intel India** and the support of the Ministry of Education.
- The Program will be **open to all school students studying** in classes 8-12 across India to **foster a deeper understanding of AI-tech** and encourage youngsters to become human-centric designers.

OBJECTIVES OF RESPONSIBLE AI FOR YOUTH 2022



Challenges in adoption of AI in education sector

- Lack of comprehensive policy:** India does not have a comprehensive plan to provide a roadmap for integrating AI in education sector.
- Infrastructure:** Existing public institutions may not be able to cope with the speed of innovation in the field of AI. New agencies and institutions within the public sector are key to creating the AI intellectual and material context of sustainable development.
- Dominance of private sector:** Currently, most of the AI developments in education, like McGraw-Hill, IBM, or Coursera, come from the private sector. It is difficult for governments to manage this surge in private sector engagement with AI in education.
- Inequity:** AI can be a disruptive technology and may deepen the existing inequalities and divides as the marginalised and disadvantaged population are more likely to be excluded from AI-powered education.
- Lack of quality and inclusive data systems:** Given that data fuel AI, complete, reliable and timely data constitute an important prerequisite for installing AI enhanced data analytics systems. However, India still struggle with collecting basic yet critical educational data.
- Ethics and transparency:** AI systems has been accused of discriminating unfairly, taking life-impacting decisions in a non-transparent way, ready to take all our jobs, and set to wrest control from humans.



Way ahead

- A comprehensive plan:** State policy should sets out a vision for making the country the world's centre of AI innovation.

- **Curricular reform:** Bridging the AI skills gap goes beyond the adoption of increasingly powerful technologies. It also means rethinking the content and methods used to deliver instruction at all levels of education.
- **Promoting R&D:** There is a need to create research laboratories to study how AI transforms the workplace; increase incentives for AI researchers to attract both domestic and international talent; and development of AI programmes at the bachelor's, master's and doctoral levels, as well as in technical and vocational education and training (TVET).
- **Local needs in local contexts:** There is also a need for a localised and decentralised examination of what is taking place in classrooms in order to find more broad strategies that could be supported by AI, replicated and also capable of being scaled up.
- **Address ethical issues:** It is essential to consult experts and form teams to create blueprints and roadmaps in the uncertainty of the near future development of AI.
- **Public-private partnership:** It will facilitate sharing of material and financial resources and also ensures that educational programmes are well aligned with labour market needs.

Initiatives taken by India to Promote research in AI

- **US-India Artificial Intelligence Initiative:** It was launched in 2021 by the Indo-US Science and Technology Forum (IUSSTF) to foster AI innovation by sharing ideas and experiences, identifying new opportunities in research and development, and bilateral collaboration.
- **National Artificial Intelligence (AI) Mission:** It was launched by the Prime Minister's Science, Technology, and Innovation Advisory Council (**PM-STIAC**). This mission will work with extensive academia-industry interactions on developing core research capability at the national level which will include international collaborations.
- **National Research Foundation (NRF):** It was established under the National Education Policy (NEP) 2020. It is an autonomous body established to boost research across segments, including AI. "Fifty thousand crore rupees have been allocated for this.
- **AI in Schools:** As part of the National Education Policy (NEP) 2020, AI will now be a part of the Indian school curriculum.



ENGLISH MEDIUM
15 July | 5 PM

हिन्दी माध्यम
22 July | 5 PM

- Specific content targeted towards Mains exam
- Complete coverage of The Hindu, Indian Express, PIB, Economic Times, Yojana, Economic Survey, Budget, India Year Book, RSTV, etc
- Doubt clearing sessions with regular assignments on Current Affairs
- Support sessions by faculty on topics like test taking strategy and stress management.
- **LIVE** and **ONLINE** recorded classes for anytime any where access by students.

ONE YEAR
CURRENT AFFAIRS
FOR GS MAINS 2022
IN 60 HOURS



6.2. CHILD LABOUR

CHILD LABOUR AT A GLANCE



Child labour: It is the work that deprives children of their childhood, their potential, and their dignity, and that is harmful to physical and mental development (ILO).



Worst forms of child labour: It comprise all forms of slavery, such as the sale and trafficking of children, debt bondage, and forced labour.



There are **160 million child labour globally** and **10.1 million in India**.



Constitutional provisions against child labour

- ⊖ **Article 21-A and 45:** Every child has a right to full time elementary education of satisfactory and equitable quality in a formal school until they complete the age of fourteen years.
- ⊖ **Article 23:** Prohibition of **traffic** in human beings and **forced labour**.
- ⊖ **Article 24:** No child below the age of fourteen years shall be employed to work in any factory or mine or engaged in any other **hazardous employment**.
- ⊖ **Article 39 (e):** Directs the state policy to ensure that the health and strength of workers, men and women, and the **tender age of children are not abused** and that **citizens are not forced** by economic necessity to **enter a vocation unsuited to their age or strength**.



Factors driving Child Labour in India

- ⊖ **Lack of reliable data on child labour:** The latest data on child labour is a decade old the Census 2011.
- ⊖ **Abuse of legal law:** Law allows children to do some specific works. This gives the employer a leeway to employ children.
- ⊖ **Lax implementation of law:** Conviction rate is very low and close to 95% of the amount in the Child Labour Rehabilitation Welfare Fund (CLRWF) is lying unutilized.
- ⊖ **Informal nature of economy:** Unorganized sector accounts for 83% of the workforce which are unregulated.
- ⊖ **Prevalence of illegal economic activities:** Like rat hole mining in Meghalaya, Mica mining in Jharkhand.
- ⊖ **Industrialist-Political-bureaucratic- nexus** also abets child labour.
- ⊖ **Child labour is a means of survival** for homeless or abandoned children.



Initiatives for eradication of child labour

- ⊖ **Gurupadswamy Committee, 1979:** It was formed to study the issue of child labour and recommended policy approach.
- ⊖ **India ratified ILO Convention 182** on the Worst Forms of Child Labour and **Convention 138** on the Minimum Age of Employment.
- ⊖ **Child Labour (Prohibition and Regulation) Amendment Act 2016:** It prohibits the engagement of children (under 14 years) in all occupations and of adolescents (under 18 years) in hazardous occupations and processes.
- ⊖ **National Child Labour Project (NCLP) Scheme:** Special Schools/Rehabilitation Centres for the rehabilitation of child labourers, supplementary nutrition and stipend to rescued children.
- ⊖ **Web portals:** PENCIL (Platform for Effective Enforcement for No Child Labour) for rescuing and rehabilitating victims of child labour and **TrackChild** (for Missing/Found Children).
- ⊖ **Mission Vatsalya:** To secure a healthy & happy childhood for each and every child in India.



Measures to be taken to eliminate Child Labour

- ⊖ **Improve law enforcement machinery:** Judicial reforms, police reforms is needed for effective implementation of laws and regulations.
- ⊖ **Reinvigorate the labour law:** All the children under 18 years should be prohibited from working.
- ⊖ **Labelling products about involvement/ non-involvement of child labour:** It would help common people make informed choice about products they use.
- ⊖ **Data Collection:** Collect and update the data that make child labour visible.
- ⊖ **Integrated system:** Strengthen child protection, eliminate poverty and inequity, improve access to quality of education and mobilize public support for respecting children's rights.
- ⊖ **Role of community:** Community at large should be sensitizing to be vigilant against the child labour.

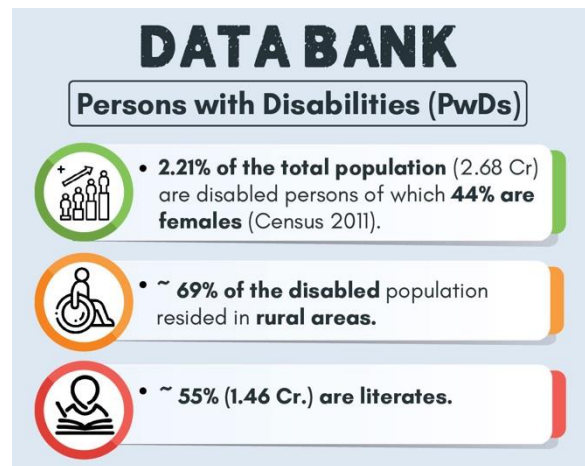
6.3. PERSONS WITH DISABILITIES (PWDS)

Why in news?

The Ministry of Social Justice and Empowerment has invited public feedback till July 9 on the new draft national policy on persons with disabilities (PwD).

More on news

- **Need:** Revision, of the existing policy (drafted in 2006), was needed because of the recent developments including:
 - Signing of **United Nations Convention on Rights of Person with Disabilities (UNCRPD)** by India
 - Enactment of **Rights of Persons with Disabilities (RPD) Act, 2016**, which expanded the number of disabilities from 7 to 21
 - **National Education Policy 2020**
- **Key highlights of the proposed draft policy**
 - Calls for a **Comprehensive National Programme on prevention** of disability.
 - **Early identification** and intervention as one-third of most disabilities in children being preventable, if detected early.
 - **Hassle free certification** of Disability based on disabilities covered by RPD Act, 2016
 - **Provision on Compliance with RPD Act** from States and UTs when granting permission or recognition to educational institutions.
 - **Targeted Mission** to ensure PWD get **accessible and affordable health services**.
 - **National level employment portal** and disability sports centers for PwD.
 - **Guidelines on necessary modifications in personal vehicles** used by PwD.



Reservation in Promotions For Persons with Disabilities (PwDs)

- In December, 2021 the Supreme Court (SC) directed centre to issue instructions to **implement reservation in promotions** for PwDs in accordance with Section 34 of Rights of PwD Act, 2016, which prescribes **not less than 4% reservation for persons with benchmark disabilities**.
- In **Siddaraju v. State of Karnataka, 2020**, SC had confirmed that **PwDs have a right to reservation in promotions as well**, and not just in recruitment.
 - However, this was **not implemented by Centre**.
- SC ruled that a disabled person can avail the benefit of **reservation for promotion even if he/she was recruited in regular category** or developed disability after gaining employment.
- Centre had sought clarification **regarding computation of vacancies**.
 - **It contended that there was a conflict between two judgments of Supreme Court:** Union of India vs. National Federation of the Blind and Rajeev Kumar Gupta v. Union of India.
 - ✓ In **National Federation of the Blind case**, SC held that computation of reservation for PwDs has to be done in case of Group A, B, C & D posts by computing reservation on total number of vacancies in cadre strength, i.e., both identified and non-identified posts.
 - ✓ In **Rajeev Kumar Gupta**, SC directed the government to extend reservation to PwDs in all identified posts in Group A and B.

Disability in India

- **Definition:** PwDs means a **person with long term physical, mental, intellectual or sensory impairment** which, in interaction with barriers, hinders his full and effective participation in society equally with others.
 - The **RPD Act, 2016 recognises 21 types of disabilities** including low vision, Leprosy cured persons, etc.

Challenges faced by PwDs

- **Stereotype:** Like many people consider PwDs unhealthy because of their impairments. Thus, PwDs have to face stigma, prejudice, and discrimination at multiple levels.
- **Accessibility:** Design and construction of indoor and outdoor facilities can prevent them from going to school and hospitals, shopping, etc.
- **Communication challenges:** It is faced by people disabilities for hearing, speaking, reading, writing, and/or understanding.
- **Policy barriers:** Lack of awareness or enforcement of existing laws which are meant to ease the life of PwDs.
- **Poverty and disability reinforce one another:** Poor health and nutrition can lead to disability and viceversa.

Way forward

- **Attitudinal Change:** People need to be sensitised for supporting PwDs to live independent and dignified lives.

- **Early diagnostic and intervention centres:** It can help in primary prevention (prevention of the manifestation of the disability) and Secondary prevention (reducing the duration or severity of disability).
- **Improving access to social protection:** In addition to disability-specific social protection, PwDs should have access to other programmes—including child and family allowances, unemployment benefits and social assistance schemes.

Initiatives taken in India for PwDs		
Acts	Policy/Rules	Schemes
<ul style="list-style-type: none"> • Rights of Persons with Disabilities Act, 2016. <ul style="list-style-type: none"> ○ Reservation in government jobs increased from 3% to 4%. ○ 5% seats reservation in Government and Government aided higher educational institutions. ○ Right to free education for every child (6 to 18 years of age) with benchmark disability. • National Trust for the Welfare of Persons with Autism, Cerebral Palsy, Mental Retardation and Multiple Disabilities Act, 1999 • Rehabilitation Council of India Act, 1992 	<ul style="list-style-type: none"> • National Policy for Persons with Disabilities, 2006 • Ratified United Nations Convention on the Rights of Persons with Disabilities (UNCRPD), 2006 • Adoption of Incheon Strategy “To make the Right Real” for Persons with Disabilities in Asia and Pacific. • Signatory to Declaration on the Full Participation and Equality of People with Disabilities in the Asia-Pacific Region • Signatory to Biwako Millennium Framework working towards an inclusive, barrier free and rights based society 	<ul style="list-style-type: none"> • National Fund for PwDs • Assistance to Disabled Persons for Purchase/ Fitting of Aids and Appliances (ADIP Scheme) • Scheme for Implementing of Persons with Disabilities Act, 1995 (SIPDA) which covers: <ul style="list-style-type: none"> ○ Accessible India Campaign (Sugamya Bharat Abhiyan): To enhance the accessibility of the built environment, transport system and information and communication ecosystem. ○ Skill Development Programme for PwDs. ○ To establish early diagnostic and intervention centres at District Headquarters/other places having Government Medical Colleges. • Unique ID for PwDs project is being implemented with a view of creating a National Database for PwDs

ESSAY

ENRICHMENT PROGRAMME 2022

Admission Open

- ▶ Introducing different stages from developing an idea into completing an essay
- ▶ Practical and efficient approach to learn different parts of essay
- ▶ Regular practice and brainstorming sessions
- ▶ Inter disciplinary approaches
- ▶ **LIVE / ONLINE** Classes Available

6.4. POPULATION GROWTH IN INDIA

POPULATION GROWTH IN INDIA AT A GLANCE

According to the UN share in world population has come down marginally in 2022. However, India, currently 1.4 billion people country, will overtake China as most populous country in 2023 and is likely to retain top spot till 2100.



Factors responsible for India's population growth

- ⊖ **Demographic transition:** India is at 3rd stage of demographic transition where population growth rate declines still the overall population increases.
- ⊖ **Falling mortality:** The IMR has decreased from 40.7 in 2015-16 to 35.3 in 2019-21. Life expectancy at birth has also increased up to 69.7 years in the 2015-19 period from 31 in 1947.
- ⊖ **Underutilised contraception:** Average use of contraception in India is still 56.5%.
- ⊖ **Unintended pregnancies:** One in every seven unintended pregnancies of world occur in India.
- ⊖ **Lack of female education:** Female education results in delayed marriage and delayed pregnancies and more autonomy to women in their sexual and reproductive health including child bearing.



Benefits of India's growing population

- ⊖ **Economic growth:** Continuing high levels of fertility helps maintaining a relatively youthful workforce.
- ⊖ **Urbanisation:** As there is a positive correlation between economic growth and urbanisation.
- ⊖ **Innovation:** Rising demand stimulates investments and this may lead to introduction of new technology.
- ⊖ **Remittances:** India is by far the world's largest recipient of remittances (receive US \$87 billion in 2021).
- ⊖ **More weightage at global platforms:** Like higher possibility of becoming permanent member of the UNSC.



Challenges caused by growing population

- ⊖ **Pressure on resources:** As India has only 2.45% of the global surface area and 4% of the water resources.
- ⊖ **Pandemic outbreaks:** Rise in population would increase urbanization and expansion of humans in wild habitats.
- ⊖ **Disruption and Conflicts:** Due to rise in struggle for finite resource.
- ⊖ **Decline in social indicators:** As commensurate increase in public expenditures on health and education may not be possible.
- ⊖ **Pressure on economy:** Stagnant economy due to low skilled workforce, stagnate economy, unemployment, etc.
- ⊖ **Widening gender gap:** If expenditure on health and education decline, women would suffer the most.



Measures taken by India for population control

- ⊖ **National Programme for Family Planning:** It was launched in 1952.
- ⊖ **National Population Policy 2000:** National Commission on Population was formed.
- ⊖ **Mission Parivar Vikas:** For increasing access to contraceptives in 146 high fertility districts in 7 high focus states.
- ⊖ **Postpartum Intrauterine contraceptive device (PPIUCD) incentive scheme:** Under this PPIUCD services are provided post-delivery.
- ⊖ **Vasectomy fortnight:** It is observed throughout the country in November each year.
- ⊖ **India Family Planning 2030 vision document** was unveiled recently for reducing Childbearing and early/ child marriage among others.

6.5. POPULATION REGULATION BILL, 2019

Why in news?

Recently, the Population Regulation Bill that proposed to introduce a **two-child policy per couple** was withdrawn.

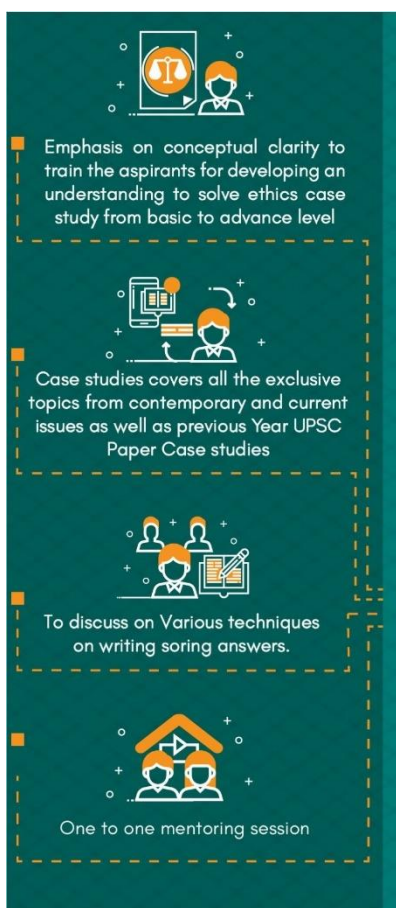
More on news

- Presently, **India has no national policy** mandating specific number of children.
- So far, 12 states, including Assam, Maharashtra, Odisha, Rajasthan, Telangana and Andhra Pradesh, already have some form of the two-child norm in place for those running for elected government posts or government jobs.

- **Rational behind introducing bill:** An increasing population results in low standard of living, unemployment, eco-degradation, and pressure on infrastructure like transport, communication, health, education among others.

Rational behind withdrawing the bill:

- **Dipping Total Fertility Rate (TFR):** 28 out of 36 States/UTs have already achieved the replacement level fertility of 2.1 or less.
- **Female foeticide:** A desire for male children could led to reported abortions and infanticide.
- **Unintended consequences:** Family as an institution may get destabilized. For example, in states that had adopted two-child policy men divorced their wives and families deserted children to avoid disqualification from public posts.
- **Against the international norms:** India being a signatory to the 'International Conference on Population and Development Declaration' is obliged to honour the right of the couples to decide freely the number of children they want to have.
- **Could not resolve the problem:** For example, taking away subsidies would reinforce extreme poverty but not resolve the issues of lack of awareness or the inability to afford contraceptives among others.

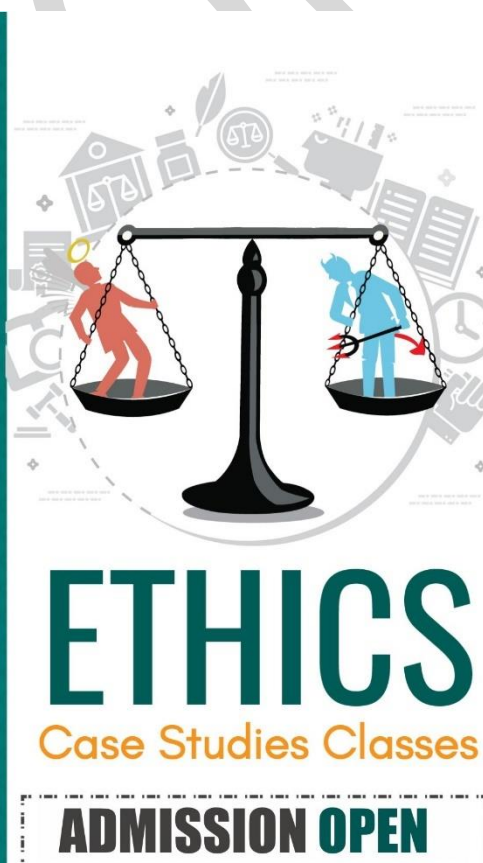


Emphasis on conceptual clarity to train the aspirants for developing an understanding to solve ethics case study from basic to advance level

Case studies covers all the exclusive topics from contemporary and current issues as well as previous Year UPSC Paper Case studies

To discuss on Various techniques on writing scoring answers.

One to one mentoring session



ETHICS
Case Studies Classes

ADMISSION OPEN



Focus on contemporary issues and interlinking case studies with topics of current interest.

Regular Doubts clearing session and personal guidance for the ethics paper throughout your preparation

Daily Class assignment and discussion

Comprehensive & updated ethics material

6.6. RIGHT TO HEALTH

RIGHT TO HEALTH AT A GLANCE

Definition: Understanding health as a human right creates a **legal obligation on states to ensure access to timely, acceptable, and affordable health care** of appropriate quality as well as to providing for the underlying determinants of health.

CORE COMPONENTS OF THE RTH



Initiatives to achieve RTH in India

- ⊖ WHO envisages “the highest attainable standard of health as a **fundamental right of every human being**.”
- ⊖ The Supreme Court of India in **Bandhua Mukti Morcha v Union of India &Ors**, 1984 interpreted the RTH under Article 21 which **guarantees the right to life**.
- ⊖ Article 39 (E), 42, 47 also **direct the state to provide quality health services**.
- ⊖ In 2019, a **High-Level Group on the health sector** recommended to declare **right to health as a fundamental right** and to shift subject of health from the State List to the Concurrent List.
- ⊖ **National Health Policy (2017)** provides for **Universal Health Coverage**, **Mental Healthcare Act 2017** and **National Policy for Rare Diseases (NPRD), 2021**



Challenges in providing RTH

- ⊖ **Low healthcare spending:** Around 2% of the GDP.
- ⊖ **Suboptimal capacity:** Inadequate number of doctors nurse, beds, etc.
- ⊖ **Weak Primary health care (PHC) sector:** 60% of PHCs in India have only one doctor while about 5% have none.
- ⊖ **Regional disparity in accessibility:** about 80% doctors and 60% hospitals are present in urban areas where only 1/3rd population lives.
- ⊖ **Neglected tropical diseases (NTDs):** They do not get adequate attention by pharma industry.
- ⊖ **Poor governance:** Unreliable and poor quality service in public healthcare institutions.



Way ahead

- ⊖ **Enhance funding:** Expenditure on health should be at least 3% of GDP.
- ⊖ **Cooperative federalism:** Decentralisation of power and funds to states.
- ⊖ **Comprehensive law for RTH:** It must also include following provisions:
 - Clearly defined **role of the Union, state, and local governments**
 - RTH should be **explicitly mentioned in the Indian Constitution**
 - Establish an institutional mechanism that is able to establish a **network with governments, research institutions, and health care providers**
 - **clearly state various processes and mechanisms for tracing testing and treatment** for controlling the epidemics
 - **Special protection should be given to health care and sanitation workers**
- ⊖ **Digitize healthcare system:** This would ensure evidence based planning and decision making.

6.6.1. UNIVERSAL IMMUNISATION

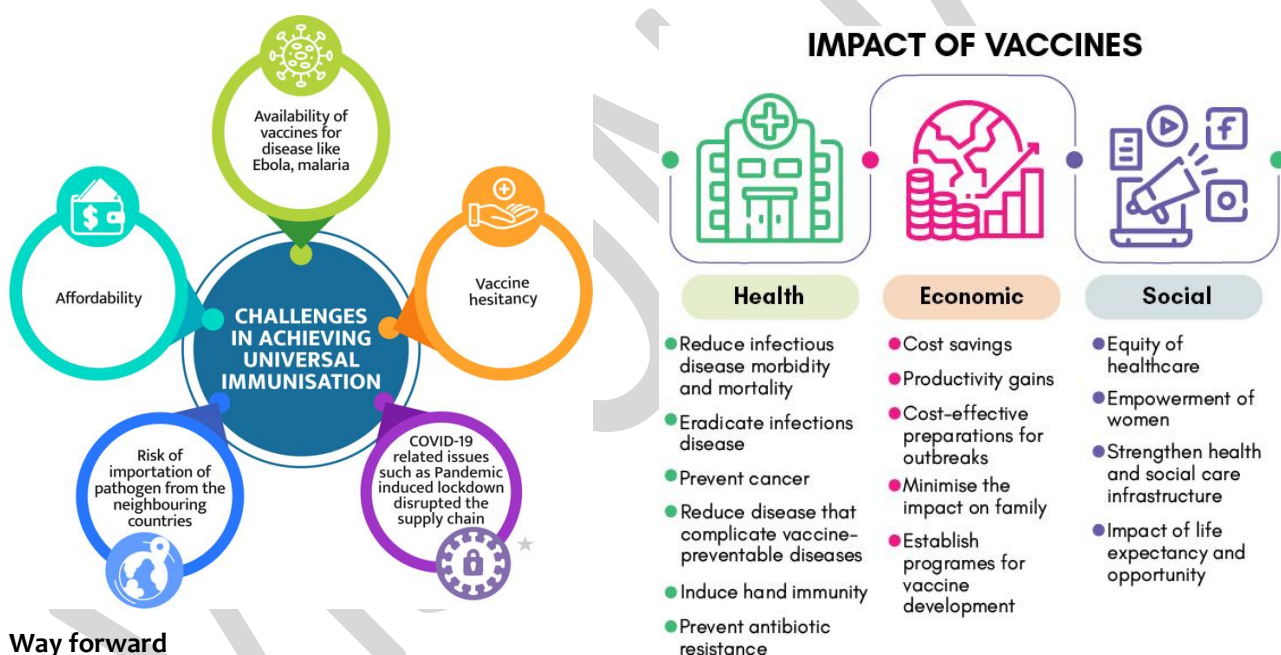
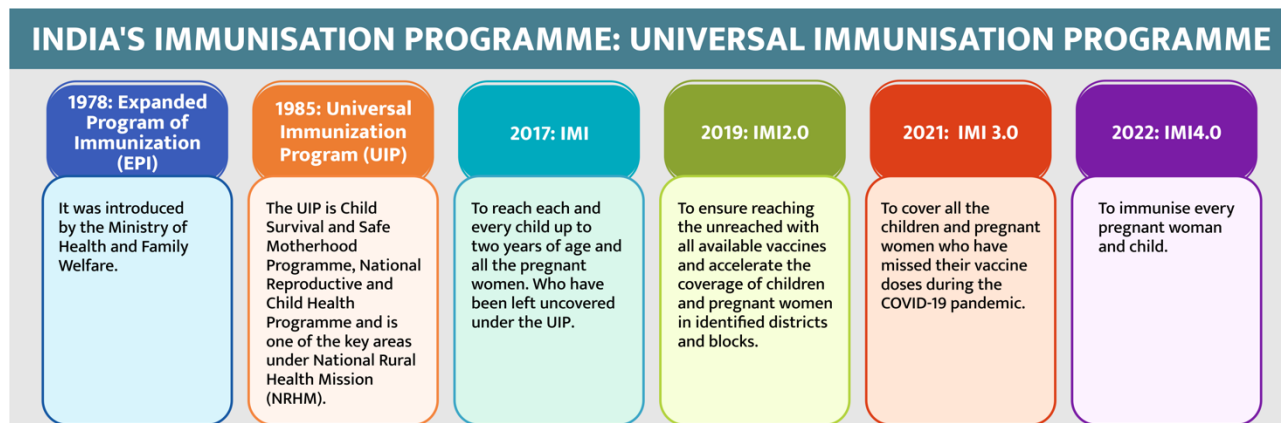
Why in news?

According to recent data by the World Health Organisation (WHO) and United Nations Children's Fund (UNICEF) COVID-19 pandemic has fuelled largest continued backslide in vaccinations in three decades.

About immunisation

- Immunisation is the process whereby a person is made immune or resistant to an infectious disease, typically by the administration of a vaccine.
- It stimulates **body's defence mechanisms**, collectively referred to as the **immune system**, against infection.
- Many infectious diseases are **rare or eradicated now as a result of immunisation programs**, but new infectious diseases are appearing around the world.

India's Immunisation programme: Universal Immunisation Programme



Way forward

- **Assured financial resources:** Effective partnership between Government (at country level as well as regional level), WHO, UNICEF could be tapped for meeting the financial needs.
- **Awareness programmes:** innovative communication strategy to dispel vaccine hesitancy by countering fears, and elicit community participation.
- **Focus on vulnerable section:** Migrant workers are at high risk of missing the dose. Hence, they should be specifically targeted.
- **Political commitment:** To ensure adequate, predictable supplies of appropriate, affordable vaccines of assured quality.
- **Continuous Innovation:** Accelerate innovation to improve programme performance, surveillance and quality and to increase access to data.

Immunization Agenda 2030 (IA2030): A Global Strategy to Leave No One Behind

- WHO and UNICEF are working with Gavi, the Vaccine Alliance and other partners to deliver the IA2030.
- IA2030 envisions a world **where everyone, everywhere, at every age, fully benefits from vaccines** to improve health and well-being.
- It aims to **maintain hard-won gains in immunization, recover from the disruptions caused by COVID-19**, and achieve even more – by leaving no one behind, in any situation or at any stage of life.

6.7. NATIONAL FOOD SECURITY ACT (NFSA)

Why in news?

Union Food Minister released the first State Ranking Index (SRI) for implementation of the National Food Security Act (NFSA), 2013.

About National Food Security Act (NFSA), 2013:

- NFSA marked a paradigm shift in the approach to food security from **welfare to rights based approach**.
- The Act provides **legal rights for subsidised food** (Rs. 3/2/1 per kg for rice, wheat and coarse grains) **to 75% of the rural population and 50% of the urban population** under its Targeted Public Distribution System.
- Ration distribution through **fair price shops, mid-day meal programmes** at schools, **nutrition and maternity benefit programmes** for children and pregnant mothers at anganwadis fall within the Act.
- ONOR Card** has been launched to provide **National/inter-State and intra-state portability** to all ration card holders under NFSA.

Issues and challenges:

- Improper identification of beneficiaries:** Inclusion and exclusion errors poor targeting of homeless, migrants, tribals, cumbersome process of digitisation, Aadhaar seeding and biometric authentication, etc.
- Lack of updation of beneficiaries:** Number of NFSA beneficiaries was frozen in 2013. Considering 67% coverage, at present least 90 crore people should be covered. However, only 80 crore people are included, which is just 59% of the total population in India
- Corruption:** Leakages and diversion at almost every point of the Supply Chain.
- Wastage and poor quality of food grains:** This happens due to poor storage facilities and wide regional disparity in storage infrastructure (Punjab, Haryana, Andhra Pradesh etc. have more storage facility).
- High fiscal burden:** Government pays a subsidy of about Rs. 1.70 lakh crore annually under NFSA.
- Inflationary pressure on food items:** Procurement by the Government results in lesser amount available for Open markets sale, thus increasing its price.

Way forward

- Targeting beneficiaries:** Periodical updation of beneficiary list and strict implementation of One Nation One Ration Card scheme to cover migrant workers.
- Removing regional disparity:** Reduce rural and urban coverage ratio from existing 75-50 to 60-40 as suggested by NITI Aayog to reduce the fiscal burden.
- Update food prices:** Revision of CIPs as recommended by Economic Survey 2020-21.
- Reduce wastage:** Augment of storage capacity by developing silos, and cold storage chain. Enhance awareness against food wastage.
- Alternative method for food security:** Direct benefit transfer would help in reducing financial cost related to procurement, storage, physical movement, etc. and also plug leakage and reduce corruption.
 - Presently it is **implemented on a pilot basis in three UTs** of Chandigarh, Puducherry, and Dadra and Nagar Haveli (urban areas).



7. SCIENCE AND TECHNOLOGY

7.1. AWARENESS IN THE FIELDS OF IT, COMPUTERS, ROBOTICS

7.1.1. WEB 3.0

WEB 3.0 AT A GLANCE

Web 3.0 can be understood as a **possible future version of the internet**, which is **user-centric, user-driven, and user-controlled**. Following are the key features of Web 3.0-

<p>Decentralized data networks for storing data within a peer-to-peer interconnection using blockchain.</p>	<p>Trustless i.e., Web 3.0 network will allow participants to interact directly without going through a trusted intermediary.</p>	<p>Permissionless as Web 3.0 will allow everyone to participate on the platform without authorization from an authority</p>
<p>Semantic Web i.e., search and analysis by understanding the meaning of words rather than by keywords or numbers.</p>	<p>Ubiquitous as Web 3.0 could be accessed from anywhere with anything.</p>	<p>Web 3.0 websites use of three-dimensional (3D) design using technologies like Mixed Reality.</p>



Potential of Web 3.0

- ⊖ **Eliminating middlemen and intermediaries** by enabling users to directly interact with any individual or machine in the world.
- ⊖ **Users gaining control over their data.** This may help limit the practice of data mining and extraction.
- ⊖ **Ensured privacy and security of the user** with absence of central authority and cryptographic security respectively.
- ⊖ **Richer user experience** with combination of semantic web, higher degrees of connectivity, mixed reality, and faster computing speeds.
- ⊖ **Providing a new dimension to businesses** with a digital world creating new occupations and new roles.
- ⊖ **Removing platform dependence and control** by making digital activity platform transferable.
- ⊖ **Creating local networks**, basing its architecture on local context and needs.



Challenges with Web 3.0

- ⊖ **Difficult to regulate** due to decentralized structure. It could lead to a rise in issues like cybercrimes, hate speech, and misinformation.
- ⊖ **Limited Accessibility due to higher usage costs** and other entry barriers like technical know-how.
- ⊖ **Potential environmental implications** like high energy consumption, excessive mining etc.
- ⊖ **Slow adoption process** as users must comprehend security concerns, understand complex technical documentation, and navigate unintuitive user interfaces.
- ⊖ **Scalability issue** as Blockchain technology can handle only around 15 transactions per second.
- ⊖ **Existing websites will need an upgrade.**
- ⊖ **High dependence on the Centralized** infrastructure as Web 3.0 infrastructure is still developing.
- ⊖ **Limited Global collaboration due to rising Techno-geopolitics.**



Opportunities and Challenges for India

- ⊖ **Opportunities:**
 - Large and growing **digital user-base** with one of the highest number of interest users.
 - Availability of a large **developer community** as India is already a software hub
 - Growing technological **entrepreneurship climate**
 - Development of **new and emerging economic sectors** like FinTech and Gaming Industry
- ⊖ **Challenges:**
 - Fear of **aggravation of already prevalent Digital Divide.**
 - **Low domain penetration** in India (0.6%).
 - Prevalence of **uncertainty and risk-aversion in policymaking.**
 - **Signs of brain drain** as Indian Web 3.0 entrepreneurs have already started moving to Dubai and Singapore.



Way forward for India

- ⊖ **Dedicated and integrated program** which provides financial support and enables national-level coordination.
- ⊖ Creating a **technological and infrastructural base** with reliable electricity connection, internet connectivity etc.
- ⊖ **Regulatory Sandbox approach to policymaking** to ensure effective yet nimble policymaking.
- ⊖ **Creating conducive conditions** to encourage and support innovation via promoting Ease of Doing Business (EoDB), incentives etc.
- ⊖ **Development of India-centric solutions** on the lines of Aadhaar, Jan Dhan, UPI, CoWin etc.
- ⊖ **Educational and awareness initiatives** would be required to ensure faster adoption and smooth transition of users.

7.1.2. SUPERCOMPUTING IN INDIA

SUPERCOMPUTING IN INDIA AT A GLANCE

A supercomputer is a computer with a high level of performance compared to a general-purpose computer. Its performance is measured in floating-point operations per second (FLOPS).

<p>A supercomputer is a computer with a high level of performance compared to a general-purpose computer. Its performance is measured in floating-point operations per second (FLOPS).</p>	<p>Supercomputers contain tens of thousands of processors and can perform billions and trillions of calculations or computations per second. Significance of supercomputers: Safety by simulating real world based on massive amount of data, mineral extraction, weather forecasting, industrial efficiency, Data mining, military and defence missions etc.</p>	<p>India launched a National Supercomputing Mission in 2015.</p>



Indian supercomputers

- ⊖ **Param supercomputers:** They are used in various fields like computational chemistry & astrophysics, health care systems, flood forecasting.
 - Ex: **PARAM shivay** (first supercomputer assembled indigenously), **PARAM siddhi** (fastest supercomputer developed in India)
- ⊖ **Pratyush and Mihir:** used for weather forecasting and climate monitoring.
- ⊖ Recently, C-DAC has designed and installed **PARAM Ganga supercomputer** (at IIT Roorkee) for the modern-day research along with theoretical and experimental work.



Need for India to invest in supercomputers

- ⊖ To enhance the impact of its welfare programs by formulating the right schemes for the right beneficiaries using big data analysis.
- ⊖ To improve its prediction of cyclones and droughts to better protect our population.
- ⊖ To better plan infrastructure for its fast-expanding cities.
- ⊖ Without supercomputers, India risks being surpassed on the global stage by other nations.



Constraints for India in developing supercomputers

- ⊖ **Lack of R&D:** Gross domestic expenditure on Research (GERD) as a percentage of GDP is very low (approx. 0.7%)
- ⊖ **High Cost of installing supercomputers.**
- ⊖ **Dependent on import:** India has to rely on imports to procure the hardware components required for building supercomputers.
- ⊖ **Lack of skilled workforce** as Supercomputers require highly trained professionals.



Way Forward

- ⊖ **Focus on indigenous development:** like server board, interconnect, processor, system software libraries, storage etc.
- ⊖ **National Supercomputing Mission** should be strengthened.
- ⊖ **Focusing on National IPR policy of 2016** to gain investor confidence and attract more investment in R&D.
- ⊖ **Generate human resources** that can spearhead supercomputing activities in the country.
- ⊖ **Strengthening institutions like C-DAC** which have been the cornerstone of research in India's deployment of High-Performance Computers.

7.2. AWARENESS IN THE FIELDS OF SPACE

7.2.1. SPACE SUSTAINABILITY

Why in News?

Recently, **UK Space Agency and Secure World Foundation** (a private organisation promoting cooperative and peaceful use of outer space) held a summit for space sustainability.

About Space Sustainability

- It is ability of all humanity to **continue to use outer space for peaceful purposes and socioeconomic benefit.**
 - It entails **meeting needs of present generations while preserving** outer space for future generations.

Need for space sustainability

- **To reduce orbital crowding and collision risk** as number of satellite launches set to increase in next decade.
- **Increased space missions due to emergence of private space players** (SpaceX, Blue Origin etc.).
- **Demonstrations of Anti-satellite weapons (ASAT) tests.**

Initiatives for sustainable outer space use

- In 2019, **UN Committee on the Peaceful Uses of Outer Space (COPUOS)** adopted voluntary, non-binding guidelines to ensure long-term sustainability of outer space activities.
- **UK plans for an Astro Carta based on Artemis Accords** (NASA's led global agreement for lunar exploration and beyond) for sustainable space exploration.
- **ISRO's 'Project NETRA'** to monitor space debris to protect its space assets. ISRO is **also developing SPADEX** to provide in-orbit servicing.

7.2.2. LIQUID-MIRROR TELESCOPE (LMT)

Why in News?

International Liquid-Mirror Telescope (ILMT) has been set up at the Devasthal Observatory campus. It is owned by Aryabhata Research Institute of Observational Sciences (ARIES), Nainital in Uttarakhand.

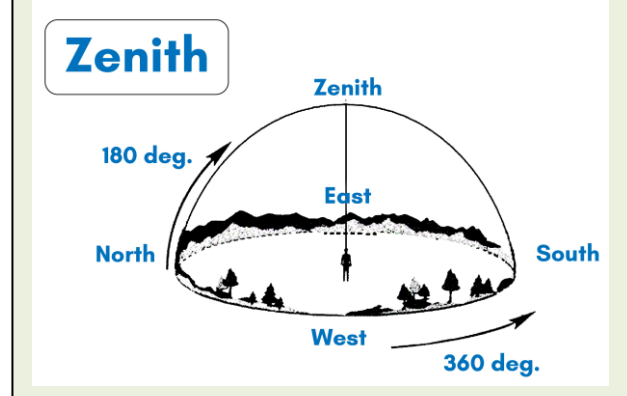
More about News

- **ILMT will be the third telescope facility to come up at Devasthal** — one of the world's most pristine sites for obtaining astronomical observations.
 - Other two are **Devasthal Optical Telescope (DOT)** and **Devasthal Fast Optical Telescope (DFOT)**.
- **There are two firsts with this ILMT:** It's the only one to have been developed for astronomy research and is also the only one of its kind to be operational anywhere in the world.
- **India, Belgium, Canada, Poland and Uzbekistan** are the main countries who have collaborated to set up the ILMT.

About Liquid-Mirror Telescopes (LMTs)

- LMTs are devices that **consist a mirror-made with a reflective liquid**, essentially mercury. However, other liquids like, low-melting alloys of gallium, are also used.
- **LMTs are stationary telescopes** that image a strip of the sky which is at the zenith at a given point of time in the night.
- Technology of LMTs is relatively simple. **Three components are required:**
 - A dish containing a reflecting liquid metal,
 - An air bearing on which the liquid mirror sits.
 - A drive system
- **Advantage of LMTs:**
 - **Fairly large liquid mirrors can be constructed at very low costs**, making it possible for a small team of astronomers to have their own large telescope working full-time on a specific project.
 - **Some research projects** (e.g. time consuming surveys, long term photometric monitoring programs) **simply cannot be envisioned with conventional telescopes** but become possible with LMTs.
 - **Quality of the recorded observations is optimal at zenith** since both the seeing and transparency are the best there, at all times.
 - **It will motivate young minds** from scientific and engineering backgrounds to take up challenging problems.

Zenith is the **imaginary point that is directly above a particular location** on the celestial sphere.



Advantage of data generated by ILMT

- Data will be ideally suited to perform a deep photometric and astrometric variability survey over a period of typically 5 years.
- It will be utilized by researchers working on different science programs.

Conventional vs liquid-mirror telescope

	Conventional telescope	Liquid-mirror telescopes
Working mechanism	<ul style="list-style-type: none"> • Can be steered to point towards the celestial source of interest in the sky for observations. 	<ul style="list-style-type: none"> • Stationary telescopes (can't be tilted like conventional telescope) that image a strip of the sky which is at the zenith. • It will capture any and all possible celestial objects — from stars, galaxies, supernovae explosions, asteroids to space debris.
Type of mirrors used	<ul style="list-style-type: none"> • Highly polished glass mirrors that are steered to focus onto the targeted celestial object on specific nights. • The light is then reflected to create images. 	<ul style="list-style-type: none"> • Made up of mirrors with a reflective liquid, in ILMT's case, mercury. • Mercury will be rotated at a fixed constant speed that will spread as a thin layer (forming a paraboloid-shaped reflecting surface) and will act as a mirror.
Operational time	<ul style="list-style-type: none"> • Observe specific stellar sources for fixed hours as per the study requirement. 	<ul style="list-style-type: none"> • Will capture the sky's images on all nights — between two successive twilights.

How liquid-mirror telescopes work



7.3. AWARENESS IN THE FIELDS OF NANO-TECHNOLOGY, BIOTECHNOLOGY AND ISSUES RELATING TO INTELLECTUAL PROPERTY RIGHTS

7.3.1. INDIA'S BIOECONOMY REPORT 2022

Why in news?

The Biotechnology Industry Research Assistance Council (BIRAC) recently released **India's Bioeconomy Report 2022**.

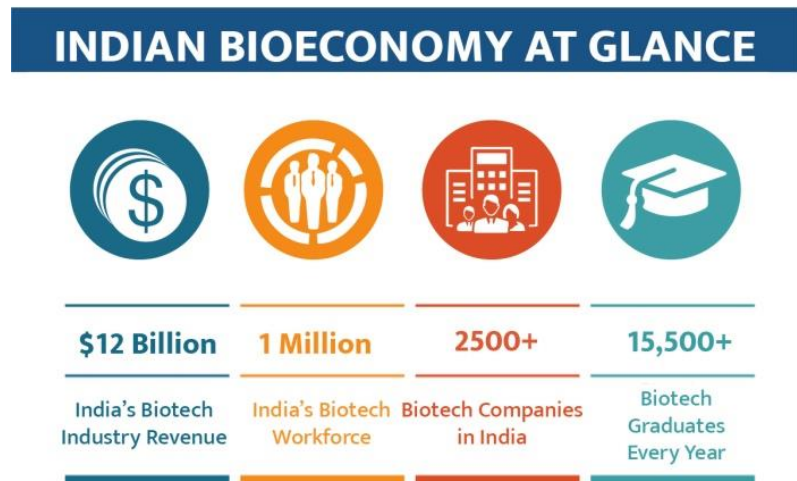
What is Bio-Economics?

According to Food and Agriculture Organisation (FAO), bioeconomy is the production, utilization, conservation, and regeneration of **biological resources, including related knowledge, S&T, and innovation, to provide sustainable solutions.**

- **Food systems** occupy the largest niche in the bioeconomy which includes sustainable agriculture, sustainable fishing, forestry, and aquaculture.
- **Bio-based products** include **bioplastics, biodegradable clothing,** and other products with eco-design.
- **Bioenergy** improves the security of **energy supply and reduces energy** dependence like biomass.

Status of India's Bioeconomy

- **Bioeconomy Market:** It continued to nearly account for a **2.6 percent share of India's GDP in 2021**. The sector registered **14% growth over 2020**.
 - Nearly a fifth of BioEconomy has been due to the Covid-19 vaccination and testing drive.
- **Sectoral Distribution:** BioPharma accounts for the largest share of the Bioeconomy (49 percent).
 - The Bio-industrial segment's contribution to the Bioeconomy witnessed 202 percent growth in 2021.
- **Innovation:** At least **three biotech startups** were incorporated every day in 2021.
- **FDI in biotech** is estimated to have touched **\$830 million in 2021**.



Challenges associated

- **Food vs fuel:** A bioeconomy implemented on a large scale could create competition for limited agricultural land and water resources.
- **Higher cost:** Bioeconomy would require significant investment to transform production processes and products.
 - For example, developing infrastructure capacity to exploit the bioenergy ecosystem.
- **Carbon dioxide emission:** A shift towards a bioeconomy could release additional carbon emissions in several cases, such as direct and indirect land-use change (for instance deforestation).
- **Regulatory Authority:** The Biotechnology Regulatory Authority of India Bill which envisions creating a **Regulatory body for the uses of biotechnology products**.
- **Intellectual Property Right regime:** There are two main areas of contention for the industry in India's approach to intellectual property in the biotech sector:
 - **Section 3(d) of the Patents (Amendment) Act, 2005:** It sets a higher standard for patentability than mandated by TRIPS (Trade Related Intellectual Property Rights). The industry argues that India's stricter standards for patents discourage innovation and dampen foreign investment.
 - **Compulsory licensing:** It gives the government power to suspend a patent in times of health emergencies. Although India has used this option only once, the industry feels that such regulations keep investors clear of Indian markets.

Government initiatives to promote bioeconomy:

- **National mission on Bioeconomics** by the Institute of Bio-resources and Sustainable Development (IBSD) to boost rural economy by utilizing bio resources.
- **National mission on biofuels (2009)** by Ministry of New and Renewable Energy to promote biofuels.
- **PLI Scheme for Biopharma** with incentives to promote self-reliance in local manufacturing of bulk drugs and encourage the biopharma industry to move up the value chain through innovation.
- **National Biotechnology Development Strategy 2015-2020 (NBDS)**, launched in 2015, to **establish India as a world class bio manufacturing hub**.
- **Promotion of Biotechnology in Northeastern Region of India** through Northeastern Region –Biotechnology Program Management Cell (NER-BPMC) for coordinating and promoting the biotechnological activities in the NER with annual investment of 180 crores.

Way forward

- **Increased investment in research, innovation, and training** via promoting public-private partnerships.
- **Strengthening policy coordination and engagement:** Increasing synergies and coherence between bioeconomy-related policies, initiatives, and economic sectors is essential.
- **Building human capital:** There is a need for the development of specialized human resources along with increasing the number and quality of jobs offered by this sector.
- **Ecosystem of innovation** in which scientists, innovators, and future entrepreneurs could be nurtured.

- **Swifter implementation of coordinated policies** for the regulation of the sector.
- **Improving markets and competitiveness** by providing the knowledge base needed to make the different sectors of the bioeconomy more sustainable.

7.3.2. GENOME EDITING

GENE EDITING AT A GLANCE

- ⊖ It is a way of **making specific changes to the DNA of a cell or organism**. This allows genetic material to be added, removed, or altered at particular locations in the genome.
- ⊖ It is a **three-stage complex mechanism of unwinding, cleaving and rewinding of DNA** to bring desirable changes in the genome of any living beings.



How it works?

- ⊖ It uses a **type of enzyme called an 'engineered nuclease'** which cuts the genome in a specific place.
- ⊖ After cutting the DNA in a specific place, the **cell will naturally repair the cut**.
- ⊖ This **repair process can be manipulated** to make changes (or 'edits') to the DNA in that location in the genome.
- ⊖ **Various techniques of genome editing:** CRISPR-Cas9, ZFNs (zinc-finger nucleases), TALENs (Transcription activator-like effector nucleases).



Advantages of Genome Editing

- ⊖ **For Research:** Can be used to change the DNA in cells or organisms to understand their biology and how they work.
- ⊖ **Treatment of diseases:** It has been used to modify human blood cells that are then put back into the body to treat conditions including leukaemia and AIDS.
- ⊖ **Biotechnology:** In agriculture to genetically modify crops to improve their yields and resistance to disease and drought, as well as to genetically modify cattle etc.
- ⊖ **Therapeutic Cloning:** It is a process whereby embryonic cells are cloned to obtain biological organs for transplantation



Concerns regarding Genome Editing

- ⊖ **Ethical Dilemma:** including eugenics helping the fittest to survive, religious debate, the possible rise of clones, designer babies, and possibly superhumans.
- ⊖ **Safety concerns:** What if we manage to wipe out particular disease only to introduce a brand new and even more dangerous one.
- ⊖ **Potential loss to diversity:** Genetically engineering species might have a detrimental effect on genetic diversity.



Way Forward

- ⊖ **Altruistic Science:** Research must be designed to increase human health and wellbeing. Early stage and uncertain application should be avoided to minimize the risk.
- ⊖ **Consensus-based application:** human genome editing for reproductive purposes should not be attempted until safe and effective research confirms the same and a social consensus is reached.
- ⊖ **Last Resort to treatment:** human germline editing should be permitted only when there is no reasonable alternative for disease prevention.
- ⊖ **The Drugs and Cosmetics Act, 1940** provides that all clinical trials in India should follow the guidelines prescribed in the Belmont report.

7.3.3. CRISPR-CAS 9

Why in the news?

It's been ten years since microbiologist Emmanuelle Charpentier and biochemist Jennifer A. Doudna published the research that paved the way for CRISPR-Cas9 gene editing.

What is Clustered Regularly Interspaced Short Palindromic Repeats (CRISPR)?

CRISPR is a genetic code or sequence found in bacteria. These are formed due to the activity of the previous bacteriophages that had infected them.

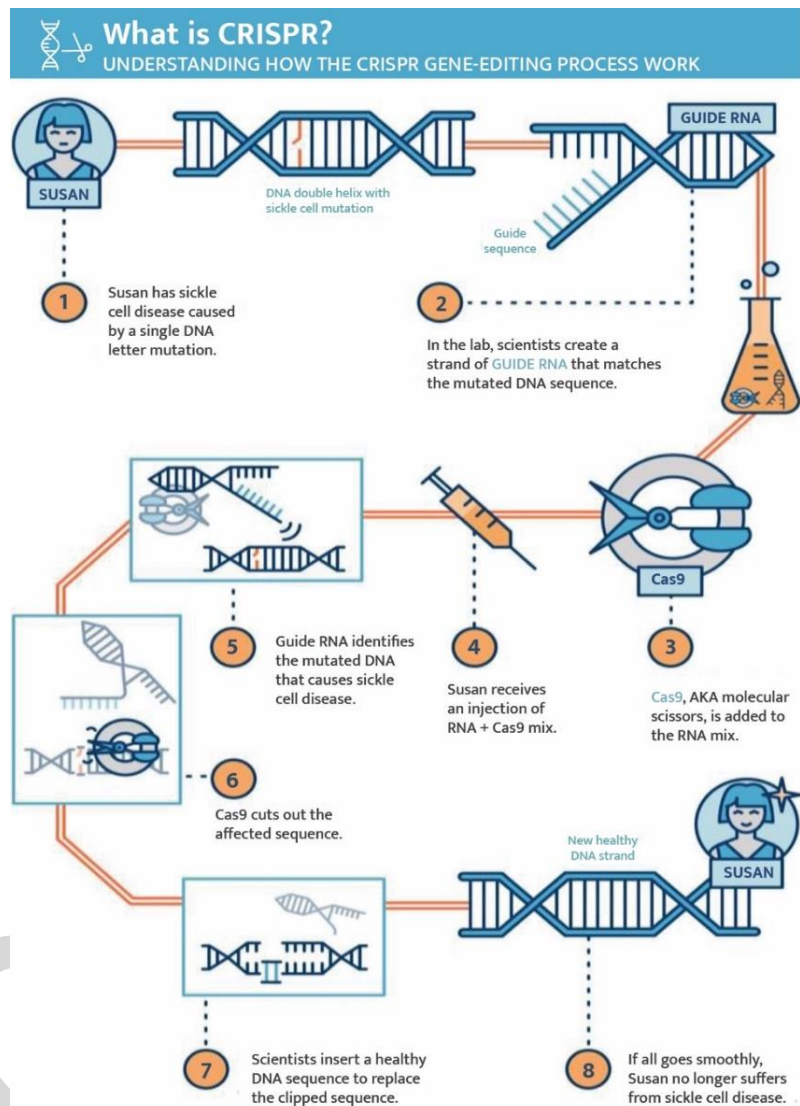
- **Bacteria use CRISPR sequence to remember each specific virus** that attacks them. They do this by **incorporating the virus' DNA into their own bacterial genome**.
- This method then gives the bacteria protection or immunity when a specific virus tries to attack again.

- **Cas 9** are the **genes that are always located nearby.** (CRISPR-associated)
- Once activated, these genes make special enzymes that seem to have co-evolved with CRISPR. The significance of these **Cas enzymes is their ability to act as “molecular scissors” that can cut into DNA.**
- **Nobel Prize in Chemistry (2020)** was awarded to Emmanuelle Charpentier and Jennifer A. Doudna for **discovering CRISPR-Cas9 genetic scissors.**

How does CRISPR work?

These are the 3 key elements to CRISPR-Cas9 work:

- **Guide RNA:** A piece of RNA that locates the targeted gene. This is engineered in a lab.
- **CRISPR-associated protein 9 (Cas9):** The “scissors” that snip the undesired DNA out.
- **DNA:** The desired piece of DNA that is inserted after the break.



Scientific breakthroughs using CRISPR-Cas9

- **Cancer:** The first ever human trials of CRISPR in China focused **on treating a range of cancers.**
- **HIV:** Scientists from Kobe University in Japan used CRISPR to **block HIV from spreading inside** infected human cells.
- **Parkinson:** US-based biopharmaceutical company Seelos Therapeutics acquired the rights to SLS-004 gene editing therapy for Parkinson’s disease.
- **Genetic manipulation:** In 2015, Chinese scientists created super muscular beagles by disabling the myostatin gene, which **directs normal muscle development.**

Advancement by India in CRISPR-Cas9 technology

- **Sickle Cell Anaemia:** Scientists at **Delhi’s institute of genomics and integrated biology** are trying to find a solution to prevent genetically inherited sickle cell anaemia using the gene-editing tool.
- **Agri-food:** Using CRISPR CAS-9 researchers at **National agri-food biotechnology** edited the banana genome to improve its **nutritional quality and pathogen resistance.**
- **Minimize side-effects:** To overcome the **problems of ‘off-targeting’,** research is being conducted for deploying naturally occurring bacteria **Francisella novicida instead of widely used streptococcus pyogenes Cas9.**
 - **Off-target effects** can be defined as unintended cleavage and mutations at untargeted genomic sites showing a similar but not an identical sequence compared to the target site.

7.4. HEALTH

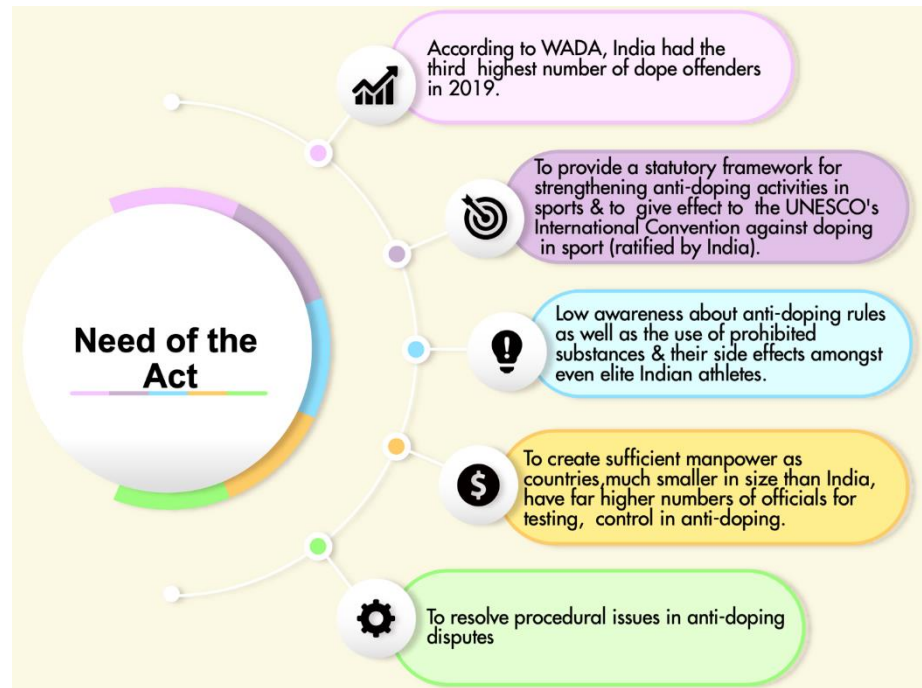
7.4.1. NATIONAL ANTI-DOPING ACT, 2022

Why in News?

National Anti-Doping Act, 2022 received President’s assent.

About National Anti-Doping Act, 2022

- It provides statutory framework in the form of legislation for prohibition of doping in sports and enforcing anti-doping activities in the country.
- Key features of the Act
 - Prohibition of doping: Act prohibits athletes, athlete support personnel and other persons from engaging in doping in sport.
 - ✓ Anti-doping rule violation may result in



disqualification of results, ineligibility to participate in a competition or event for a prescribed period, financial sanctions etc.

- Incorporation of National Anti-Doping Agency (NADA) for the functioning of NADA, empowering it to conduct raids besides strengthening measures to tackle drug abuse.
- Establishment and constitution of National Board for Anti-Doping in Sports: It will make recommendations to the government on anti-doping regulation and compliance with international commitments on anti-doping.
- Dope Testing Laboratories: The existing National Dope Testing Laboratory will be deemed to be the principal dope testing laboratory. The central government may establish more National Dope Testing Laboratories.

Concerns raised against the Act

About Doping

- Doping is the consumption of certain prohibited substances by athletes to enhance performance.
- Types of substances are used in doping include androgenic agents, stimulants, diuretics, peptide hormones, blood doping, gene doping etc.
- World Anti-Doping Agency (WADA) monitors doping in all kinds of competitive sports.
 - WADA periodically updates its list of Prohibited Substances and Methods.
 - WADA monitors doping in sport based on the World Anti-Doping Code.
- At the national level, there is the National Anti-Doping Agency (NADA), an independent body under Union Ministry of Sports.

Independence of Director General of NADA	
According to WADA, such organisations must be independent to make operational decisions. Provisions of Act may not fully ensure that NADA is independent of the central government.	
Independence of Disciplinary and Hearing Panels	
As grounds of removal have not been specified in the Act giving the Board the discretion to decide the grounds of removal through Regulations.	
Qualifications of members of the Disciplinary and Hearing Panels	
WADA guidelines require that the members of the hearing panel must have anti-doping experience, a provision lacking in the Act.	

Parliamentary Standing Committee on Education, Women, Children, Youth and Sports recommended following measures to improve and strengthen the anti-doping ecosystem in the country:

- Boosting education, regular counselling and awareness-raising measures from grass root level and improving consequential awareness amongst elite athletes.

- **Starting more sports science and sports medicine courses** in various medical colleges/Universities to address the lack of qualified personnel in these fields.
- **“Dope-free” certification by independent bodies** should be made mandatory for supplements or nutraceuticals which are regularly consumed by athletes.
- **A distinction for minor athletes should be made** while formulating the rules so that a protective mechanism is available to them.
- **Early detection mechanism** and mandatory provision for having at least one certified sports medicine doctor at all sports camps which are organized for training of athletes.
- **Enforcing athletes' responsibility** towards protection of the integrity of sports by ensuring the proper compliance of the “whereabouts guidelines”.

7.4.2. ANTI-MICROBIAL RESISTANCE (AMR)

ANTIMICROBIAL RESISTANCE (AMR) AT A GLANCE

AMR occurs when **bacteria, viruses, fungi and parasites change over time and no longer respond to medicines** making infections harder to treat and increasing the risk of disease spread, severe illness and death.



WHO had declared that **AMR is one of the top 10 global public health threats facing humanity.**



Causes of AMR include over-use of antibiotics, poor sanitation in clinics, unfinished treatments, poor hygiene, over-use of antibiotics in farming, lack of new antibiotics etc.



Impacts of AMR

- ⊖ **Inability to treat common infections** thereby resulting in prolonged illness, disability and an increase in death rate.
- ⊖ **Increased threat to medical procedures** such as organ transplantation, cancer chemotherapy etc.
- ⊖ **Increased cost of healthcare** owing to lengthier stays in hospitals, use of more expensive drug etc..
- ⊖ **Adverse impact on animal health** as it undermines the effectiveness of veterinary medicines.
- ⊖ **Endangers SDGs:** AMR is putting the gains of the Millennium Development Goals at risk and endangers the achievement of the SDGs.



Shortcomings in fighting AMR

- ⊖ **Lack of holistic approach:** A cross-cutting programme dealing with AMR across multiple microbes has been lacking.
- ⊖ **Lack of regulatory mechanism:** to limit the use of antimicrobials in livestock and food animals has resulted in antibiotic overuse.
- ⊖ **Absence of a One Health Approach in addressing AMR.**
- ⊖ **Limited capacity development** and awareness among stakeholders.
- ⊖ **Effluent standards** in India do not include antibiotic residues, and thus they are not monitored in the pharmaceutical industry effluents.



Initiatives taken to tackle AMR

- ⊖ **Global Initiatives**
 - **One Health Global Leaders Group on AMR** to govern importation, manufacture, distribution and use of quality antimicrobial drugs.
 - **Global Antimicrobial Resistance Surveillance System (GLASS)** by WHO.
 - **AWaRE tool** by WHO
- ⊖ **Initiatives by India**
 - **National Action Plan on Antimicrobial Resistance.**
 - **AMR Surveillance Network** established by ICMR in 2013.
 - **Red Line Campaign:** It urges people not to use medicines marked with a red vertical line, including antibiotics, without a doctor's prescription.
 - **ICMR's antibiotic stewardship program** to control misuse and overuse of antibiotics in hospital wards and ICUs.



Way Forward

- ⊖ **Governance:**
 - Strict control of **over-the-counter sell of antibiotics** and misuse of **anti-biotic in poultry sector.**
 - Apply **stringent environmental standards** in manufacture, distribution, control and disposal of anti-microbial.
- ⊖ **Capacity building of medical care:**
 - **Strengthening the surveillance systems** so that patients complete their prescribed **anti-microbial regimen.**
 - In the hospital setting, **infection control measures and antimicrobial stewardship programmes.**
- ⊖ **Global collaboration and research:**
 - **Information and data sharing** on a global level.
 - **Prioritize R&D** for not only for new **anti-microbials** but also **vaccines to prevent the disease at the onset.**

8 IN TOP 10 SELECTIONS IN CSE 2021

from various programs of **VisionIAS**

2
AIR



**ANKITA
AGARWAL**

1
AIR



SHUBHAM KUMAR

**CIVIL SERVICES
EXAMINATION 2020**

3
AIR



**GAMINI
SINGLA**

4
AIR



**AISHWARYA
VERMA**

5
AIR



**UTKARSH
DWIVEDI**

6
AIR



**YAKSH
CHAUDHARY**

7
AIR



**SAMYAK
S JAIN**

8
AIR



**ISHITA
RATHI**

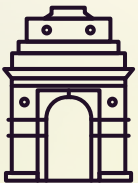
9
AIR



**PREETAM
KUMAR**



**YOU CAN
BE NEXT**



HEAD OFFICE Apsara Arcade, 1/8-B, 1st Floor,
Near Gate 6, Karol Bagh Metro Station

+91 8468022022, +91 9019066066

Mukherjee Nagar Centre

635, Opp. Signature View Apartments,
Banda Bahadur Marg, Mukherjee Nagar

DELHI



JAIPUR

9001949244



HYDERABAD

9000104133



PUNE

8007500096



AHMEDABAD

9909447040



LUCKNOW

8468022022



CHANDIGARH

8468022022



GUWAHATI

8468022022



/c/VisionIASdelhi



/vision_ias



/visionias_upsc



/VisionIAS_UPSC