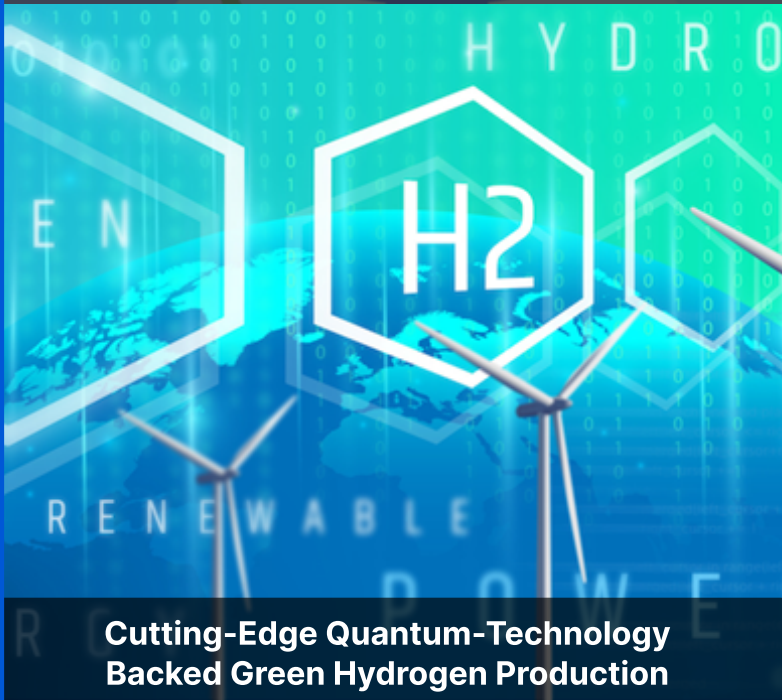**Prepp IAS**

Current Affairs

October 2023

Gender Disparity in Global Workforce and Leadership Positions

US Federal Reserve Policy Rates and Indian Economy

Cutting-Edge Quantum-Technology Backed Green Hydrogen Production

Change in India Maldives Relations

Contents

Constitution, Polity & Governance (GS Paper Prelims) & GS Paper II (Main)

Legitimacy of Internet Shutdown & Manipur Violence

Priority: Medium

Primary Source: The Indian Express

Relevance: Government policies and interventions; Internal Security

Prepp Prelims Booster: Internet shutdowns

Prepp Mains Booster: Issues related to Internet Shutdowns

Context

Manipur's 143-day internet blackout, India's second-longest, was lifted on September 23, 2023. However, the circulation of gruesome images of two slain Meitei students shortly after led to a renewed state-wide internet shutdown.

What is the meaning of Internet Shutdown?

- According to the Software Freedom Law Center (SFLC), a legal services organisation, **since 2012 there have been 665 Internet shutdowns in India to date.**

> **'Shut downs'** mean a total ban on mobile (3G, 4G/LTE), or fixed-line (dial-up, wired/wireless broadband) **Internet**, both or either of which may be shut down.

- Depending on the reason for execution, shutdowns are of two types:
- Preventive: Imposed before any untoward events take place, usually take place in order to prevent violence.
- Reactive: Imposed after the event takes place and is generally an easy way to control an escalating law and order situation.
- **There are four possible methods to do such shutdown**
- Restrictions of internet access by medium (wired or wireless)
- Restrictions on time (for a certain number of hours or days)
- Restrictions localised to a geographical area (specific districts rather than an entire state)
- Restriction by blocking or whitelisting specific websites or a class of services (such as social media or internet banking)
- According to the report "**Weapons of control, shields of impunity: Internet shutdowns in 2022**" which was released by Access Now and the KeepItOn Coalition, **India topped the list of countries with internet shutdowns for the fifth successive year according to the report.**

Guidelines for Internet Shutdown in India

Before 2017

- Internet shutdowns were ordered under **Section 144** of the Code of Criminal Procedure
- As per this section **District Magistrates** have broad powers to shut down the internet during dangerous situations.
- Apart from this, **Section 69A of the Information Technology Act, 2000** empowers the central government to block access to any information on the internet that it considers to be prejudicial to the sovereignty, integrity, defence, security or friendly relations of India, or to public order or decency, or to incitement of any offence.

After 2017

- The **Temporary Suspension of Internet Services (Public Emergency or Public Safety) Rules 2017** govern internet shutdowns in India.
- Under **section 5(2)** of the rules framed by the DoT state that t**emporary suspensions can be imposed for reasons of public safety** or emergencies with senior bureaucrats at the Centre and State empowered to authorise shutdowns.
- **The Review Committee** in the respective states, **chaired by the Chief Secretary was empowered to decide the legality** within 5 days of the shutdowns under the 2017 rules.

> **Constitutional provisions related to shutdowns**
> - **Article 19** of the Constitution guarantees the **freedom of speech and the freedom to practice any profession**, which may depend on internet access.
> - **Article 21** protects the **right to life and liberty** which also includes the **right to education** and the **right to exercise one's freedom to access the Internet.**
> - **Article 19 (2)** of the Constitution states that **reasonable restrictions** can be imposed on Fundamental Rights on grounds such as
> - Threats to the nation,
> - Threats to national sovereignty
> - Threats to the nation's integrity and defence
> - To avoid incitement to or the commission of a cognizable offence.

How much is it legitimate?

In favour	In against
misinformation and rumours can lead to deterioration in law and order in an area	in the absence of information sources like news outlets, rumours can actually end up spreading even more
curbing the flow of information helps maintain peace among communities in times of crisis	important services such as those related to payments, banking, and educational access, all get cut in an instant
According to the Information Technology Act, 2000 websites can be blocked if there are threats to national sovereignty or integrity or defence	disruptions at multiple levels and economic losses
internet services are temporarily suspended **during important examinations to prevent cheating** and leakage of question papers	It shows absence of accountability from centre

Governments may order internet shutdowns to **contain hate speech, rumours, and fake news** that could incite violence or create social unrest	Internet shutdowns violate the **right to free expression and information, which is guaranteed by Article 19(1)(a)**
	Internet shutdowns violate the **Article 19 of the Universal Declaration of Human Rights**
	Internet shutdowns also deepen the **digital divide between those who have access to reliable** and affordable internet

SC Rulings regarding internet shut down

Anuradha Bhasin v Union of India (2020):

- In the **Anuradha Bhasin vs Union of India**, the Supreme Court ruled that, freedom of speech and expression and the freedom to practise any profession or carry on any trade, business or occupation over the medium of Internet enjoys constitutional protection under Article 19 (1) (a) and Article 19 (1) (g).
- At the same time, restriction upon such fundamental rights should be in consonance with the mandate under **Article 19 (2) and (6)** of the Constitution, inclusive of the **test of proportionality.**

Foundation for Media Professionals v. Union Territory of Jammu and Kashmir (2020):

- In this case, the **Supreme Court of India directed the Jammu and Kashmir administration to review all existing restrictions** on internet access, stating that the right to internet access is a fundamental right and must be respected.

Internet Freedom Foundation v. Union of India (2020):

- The Supreme Court of India heard a **petition filed by the Internet Freedom Foundation (IFF)** challenging the internet shutdowns in various parts of the country, including during the protests against the Citizenship Amendment Act (CAA).
- **The court issued notice to the government, seeking a response to the IFF's contentions.**

Challenges

- **Due Process:** A major problem faced is that shutdowns of all kinds, not just the internet, are not based on decisions made by following due process.
  - Although a shutdown cannot be implemented by anybody below the level of a Joint Secretary, district magistrates often end up imposing blanket shutdowns.
- **Denial of Rights:** An Internet shutdown is essentially a restriction on the fundamental rights of the people whom it affects.
  - People cannot work, access telemedicine, study, or order and pay for food and groceries to eat.
- **Lack of transparency:** According to **Rule 5 of the Temporary Suspension Rules,** a review committee has to be formed within five working days of the issuance of the order to suspend services.
  - However, there is a lack of transparency about the working of the review committee as applications for information about it and its minutes are denied.
  - As a result, it is generally difficult to know if the shutdown is justified or not.
- **Non-adherence to guidelines:** In the aftermath of the Supreme Court's verdict in the Anuradha Bhasin case, shutdowns have been implemented under the Suspension Rules as opposed to

Section 144.

  - However, none or very few shutdown orders are made available in the public domain.
- **Technical:** In 2020, the government stated that it would whitelist some websites and allow access to them through 2G.
  - However, this was not practical because most websites do not load on 2G.
  - Additionally, there might be problems with using these whitelisted websites.
  - Consider the example of a bank website that has been whitelisted. The user may not be able to access his account information which is hosted on another domain.
  - The Manipur High Court constituted a committee to consider blocking **VPN** servers to ensure that Internet access can be restored safely while restrictions on social media websites are still maintained. This is infeasible since VPN servers provide access.
- **Proportionality:** It examines whether a shutdown is necessary or not, and is considered by the courts.
  - Internet shutdowns to prevent cheating in exams as done by Rajasthan and West Bengal do not comply with the **principle of proportionality**.
  - Although the freedom of speech and expression is not an absolute right, shutdowns cannot be implemented for frivolous reasons.
  - As situations may vary, decisions to implement shutdowns must be balanced and proportionate as general protocols might not work in every situation.

Conclusion

- So, such shutdowns should not be imposed abruptly. There is a need for proper regulation which includes defined reasons, procedures, check mechanism, etc for overall betterment.

Reasons Behind Riots in Manipur

- There have been violent communal clashes in Manipur due to the Manipur High Court (HC) directing the State to pursue a 10-year-old recommendation to grant Scheduled Tribe (ST) status to the non-tribal Meitei community.
- The violence escalated after the All-Tribal Student Union Manipur (ATSUM) organized a "tribal solidarity rally" against the alleged move to include the Meiteis on the ST list.

- The Meiteis have a demographic and political advantage and are also more academically advanced. ST status to the Meiteis would lead to loss of job opportunities and allow them to acquire land in the hills and push the tribals out. The language of the Meitei people is included in the Eighth Schedule of the Constitution and many of them have access to benefits associated with the SC, OBC or EWS status.
- Kukis and Nagas point out that tribal areas are 90% of the state's geographical area, but the bulk of its budget and development work is focused on the Meitei-dominated Imphal valley.

Report on Pendency of Complaints With the Information Commissions

Priority: Medium

Primary Source: The Indian Express

Relevance: Important aspects of governance, transparency and accountability, e-governance- applications, models, successes, limitations, and potential; citizens charters, transparency & accountability and institutional and other measures.

Prepp Prelims Booster: Information Commission, RTI Act

Prepp Mains Booster: Role of information Commissions, RTI and related Issues

Context
- Recently, the "Report Card on the Performance of Information Commissions in India, 2022-23" report prepared by the Satark Nagrik Sangathan (SNS) revealed that 3,21,537 appeals and complaints are pending in 27 State Information Commissions across India.

October 12, 2023 marks 18 years since the implementation of the RTI Act in India in 2005

What are the findings of the report?
- **Pendency:** 3,21,537 appeals and complaints are pending in 27 State Information Commissions across the country.
  - Maharashtra has the highest number of pending appeals (1,15,524), followed by Karnataka (41,047).
  - Tamil Nadu did not provide information on its backlog.
- **Efficiency:** 2,20,382 appeals and complaints were registered between July 1, 2022, and June 30, 2023, of which 2,14,698 cases were disposed of by 29 Information Commissions.
- **Time taken:** 10 Information Commissions will take one year or more to dispose of an appeal/complaint.
  - The time to resolve cases was calculated using the current monthly disposal rate and pendency.
  - The West Bengal State Information Commission (SIC) would take an estimated 24 years and one month to dispose of a matter while SICs In Chhattisgarh and Maharashtra, would take over four years to dispose of an appeal or complaint.

- In Odisha and Arunachal Pradesh, it is over two years. The assessment shows that
- **Nonfunctioning Commissions:** Four Information Commissions in Jharkhand, Telangana, Mizoram, and Tripura are non-functional because new Information Commissioners have not been appointed.
  - Six Information Commissions are currently without a head.
  - This includes the Central Information Commission and the State Information Commissions of Manipur, Chhattisgarh, Maharashtra, Bihar, and Punjab.
- **Penalties:** Commissions did not impose penalties in 91% of the cases where they could have been imposed.

Who prepared the report?
- The report was prepared by the **Satark Nagrik Sangathan (SNS),** a citizens' group that aims to promote transparency and accountability in governance.
- It is based on the performance of Information Commissions across India and data obtained through the **Right to Information (RTI) Act.**

Right to Information Act
- The Right to Information Act, which was enacted in 2005, empowers Indian citizens to request information from public authorities, with the aim of making governance and the government transparent and accountable.
- It was implemented to strengthen the citizen's fundamental right to 'freedom of speech'.
  - RTI is implicit in the Right to Freedom of Speech and Expression under Article 19, making it an implied fundamental right.
- **Key Provisions:**
  - **Section 4:** Suo motu disclosure of information by each public authority.
  - **Section 8 (1):** Exemptions against furnishing information under the RTI Act.
  - **Section 8 (2):** Disclosure of information exempted under the Official Secrets Act, 1923 in larger public interest

Right to Information (Amendment) Act, 2019:
- It provided that the **Chief Information Commissioner** and an **Information Commissioner** (of Centre and States) shall hold office for a term prescribed by the Central Government, unlike the previous fixed 5-year terms.
- The salary, allowances, and other service conditions of the Chief Information Commissioner and Information Commissioners would be prescribed by the Central Government. (Earlier, the salary, allowances, and other service conditions of the Chief Information Commissioner were similar to those of the Chief Election Commissioner and that of an Information Commissioner were similar to those of an Election Commissioner).

- Provisions regarding deductions in the salary of the Information Commissioners due to pension or other retirement benefits were removed.

Criticism

- Public authorities have **not been proactive in disclosing information and Public Information Officers** have been accused of a hostile attitude towards citizens.
- Officials have also been criticized for **misinterpreting provisions of the Right to Information (RTI) Act** in order to conceal information and rejecting requests on important matters.
- There is a **lack of clarity on what public interest is and the right to privacy**

Central Information Commission

- The Central Information Commission was established in 2005 under the Right to Information Act, 2005.
- Information Commissions serve as the final appellate authority under the RTI Act, ensuring the fundamental right to information for the citizens of India.
- **Jurisdiction:** All Central Public Authorities.
- **Staff:** Chief Information Commissioner (CIC) and not more than 10 Central Information Commissioners
- **Term:** The term prescribed by the Central Government or until they attain the age of 65 years, whichever is earlier.
  - **CIC is not eligible for reappointment** but ICs are eligible for appointment as the CIC but aggregate term should not be more than five years.

Appointment:

- **Appointed by the President** on the recommendation of a **committee chaired by the Prime Minister, with the Leader of the Opposition in Lok Sabha and a Union Cabinet Minister nominated by the Prime Minister** as members.

Eligibility:

- They should be persons of eminence in public life with wide knowledge and experience in law, science, technology, social service, management, journalism, mass media, or administration and governance.
  - Member of Parliament or Member of the Legislature of any State or Union Territory, or those holding any other office of profit or connected with any political party or carrying on any business or pursuing any profession are **ineligible**.

Removal from office:

- The President can remove the members of CIC on the following conditions:
  - Adjudged an insolvent
  - Moral turpitude
  - Engages in paid employment outside his duties
  - Declared unfit by reason of infirmity of mind or body, by the President
  - Proved misbehavior or incapacity, after an inquiry by the Supreme Court

State Information Commissions

- The SIC consists of a State Chief Information Commissioner and not more than 10 State Information Commissioners.
- **Appointment:**
  - **Appointed by the Governor** on the recommendation of a **committee chaired by the Chief Minister, with the Leader of the Opposition in the Legislative Assembly, and a State Cabinet Minister nominated by the Chief Minister** as members.
- **Jurisdiction:** All State public authorities
- **Eligibility:** Same criteria as Central Information Commissioners.
- **Term:** The term prescribed by the Central Government or until they attain the age of 65 years, whichever is earlier.
  - State Information Commissioners are eligible for appointment as the State Chief Information Commissioner but his aggregate term should not be more than 5 years.
- **Removal from office:** The Governor can remove the members of SIC from office if he is:
  - Adjudged as insolvent
  - For moral turpitude
  - For engaging in any paid employment outside the duties of his office
  - Declared unfit by reason of infirmity of mind or body, by the Governor
  - For proved misbehavior or incapacity following an inquiry by the Supreme Court.

Powers of Information Commissions

- Receive and inquire into complaints regarding information requested under the RTI Act.
- Order an inquiry into any matter on reasonable grounds.
- Powers of a civil court in respect of summoning, requiring documents, etc.
- Adjudication in the second appeal for giving information;
- Direction for record-keeping
- Imposition of penalties and Monitoring and Reporting including preparation of an Annual Report.

Concerns

- **Transparency:** The selection criteria and functioning of the Information Commissions lacks transparency with the Supreme Court highlighting a bias toward appointing former bureaucrats which raises concerns about impartiality.
- **Inefficient management:** Inefficient record management and data collection from field offices have led to delays in processing RTI applications.
- **Vacancies:** Vacancies in the ICs are not promptly filled, resulting in a backlog of cases.
- **Capacity:** Some Chief Public Information Officers (CPIOs) have been found to lack adequate knowledge of the RTI Act which has led to unnecessary delays in responding to applications.

- **Pendencies:** While the RTI Act stipulates timeframes for First Appeal processing, it lacks specific limits for Second Appeal disposal, leading to delays.
- **Information Quality:** The information provided under the RTI Act has been criticized as being unsatisfactory.
- **Low Awareness:** There is very limited awareness of the RTI Act and Information Commissions among the public, particularly marginalized communities.

UPSC Mains Practice Questions

Q.1) Some recent developments such as the introduction of the RTI Act, media and judicial activism, etc., are proving helpful in bringing about greater transparency and accountability in the functioning of the government. However, it is also being observed that at times the CPIO mechanisms are misused. Another negative effect is that the officers are now afraid to make prompt decisions. Analyze this situation in detail and suggest how this dichotomy can be resolved. Suggest how these negative impacts can be minimized. (UPSC GS4 2015)

Q.2) The Right to Information Act is not all about citizens' empowerment alone, it essentially redefines the concept of accountability. Discuss. (UPSC GS 2 2018)

MCQs

Question: Consider the following statements:

1.   The right to information is treated as a fundamental right under Article 21.
2.   An RTI application can be filed for free.
3.   There is no set time frame to dispose of first or second appeals under the RTI Act.

How many of the above statements is/are correct?

a.   Only 1 statement
b.   Only 2 statements
c.   All 3 statements
d.   None of the above

Answer: (d)

Why Exclude Single Women From Opting For Surrogacy: Delhi HC

Priority: Medium

Primary Source: The Hindu

Relevance: Government Policies and Interventions for Development

Prepp Prelims Booster: Surrogacy, Original Jurisdiction

Prepp Mains Booster: Surrogacy Regulations and challenges associated with it

Context

- Recently, Delhi High Court questioned the Centre on why single, unmarried women are excluded from availing surrogacy benefits under the Surrogacy (Regulation) Act, 2021.
- The law currently only allows widows and divorcees between the ages of 35 and 45 to avail surrogacy.
- It is a case where a specific provision of a legislative act is being challenged **directly in the High Court** due

to alleged violations of fundamental rights, making it a matter of the **court's original jurisdiction**.

Background of the Case

- The High Court's query came during the hearing of a petition by a 44-year-old unmarried woman.
- She challenged Section 2(1)(s) of the Surrogacy (Regulation) Act, 2021, which excludes women like her from the surrogacy procedure.
- The petitioner also raised concerns about the stipulation that forces single women (widow or divorcee) to use their own eggs for the procedure.
- The petitioner wishes to use donor female gametes due to medical advisories against using her own at her age.
- Her brother has given consent to donate his male gametes to ensure a genetic connection.
- The petitioner claims that the current restrictions are:
o   Irrational
o   Unlawful
o   Discriminatory
o   Violation of fundamental rights under Articles 14 (right to equality) and 21 (right to life) of the Constitution.

What is Surrogacy?

- **Surrogacy** is a reproductive method where a woman (the surrogate mother) agrees to carry and give birth to a baby for another person or couple (the intended parent or parents) who will become the child's legal parent(s) after birth.

Types:

- **In altruistic surrogacy**, the surrogate mother agrees to carry and give birth to the child without receiving any financial compensation or profit for her services.
- The surrogate may be reimbursed for medical and other reasonable expenses directly related to the pregnancy and birth, but she does not earn a fee or profit for the surrogacy itself.
- **In commercial surrogacy**, the surrogate mother receives monetary compensation beyond just the medical expenses.
- This compensation is for her services as a surrogate, and it's essentially a fee for carrying and delivering the child for the intended parents.

Why is India Preferred for Surrogacy?

- India has steadily developed as an international destination for commercial surrogacy since the first surrogate delivery in June 1994.
- In July 2012, a United Nations-backed research estimated the sector to be worth more than $400 million per year, with over 3,000 reproductive clinics spread across India.
- In 2022, the surrogacy market in India was valued at more than USD 14 billion. A compound annual growth rate (CAGR) of over 24.5% is anticipated from 2023 to 2032.

- In 2002, commercial surrogacy became allowed in India. Surrogacy in India has grown due to relatively inexpensive medical facilities, reproductive technological know-how, and the availability of women, primarily from low-income families who are prepared to take on the duty.
- The procedure costs around a third of what it costs in the United Kingdom and only about a fifth of what it costs in the United States.
- At the same time, Indian clinics are becoming more competitive, not only in terms of pricing, but also in terms of hiring and retaining Indian female surrogates.

Need for Surrogacy Regulations in India

- The Surrogacy (Regulation) Act was introduced in India due to several pressing concerns related to surrogacy practices in the country.
- **Unregulated Commercial Surrogacy:** India had become a hub for commercial surrogacy, attracting people from different parts of the world due to lower costs and lack of strict regulations. The unregulated nature of this industry raised several ethical and legal dilemmas.
- **Exploitation of Surrogate Mothers:** There were numerous reports suggesting the exploitation of economically disadvantaged women, especially in rural areas, who became surrogate mothers primarily for monetary benefits.
- **Commodification of the Child:** Commercial surrogacy was criticized for treating children as commodities, with transactions resembling a marketplace for babies.
- **Child's Rights and Citizenship Issues:** There were instances where children born out of surrogacy faced issues related to citizenship, abandonment, and legal parentage, especially in cases involving foreign couples.
- **Ethical Concerns:** There were concerns about the ethical implications of surrogacy arrangements, such as the potential for coerced pregnancies, the selection of specific traits (e.g., gender), and multiple embryo implantations leading to forced abortions of additional fetuses.
- **Medical Concerns:** Multiple embryo implantations, a practice often employed to increase the chances of a successful pregnancy, raised medical concerns due to the increased risks associated with multiple pregnancies and births.
- **Legal Ambiguities:** In the absence of a comprehensive legal framework, disputes arose over parental rights, the rights of the surrogate mother, and the fate of the child, especially if born with congenital conditions or disabilities.
- **International Scrutiny:** The surrogacy industry in India came under international scrutiny due to concerns over the exploitation of surrogate mothers and the legal and ethical implications arising from international surrogacy agreements.

Surrogacy Laws in India

- The **Assisted Reproductive Technology (Regulation) Act, 2021** and the **Surrogacy (Regulation) Act, 2021** provide guidelines for surrogacy in India.
- The **Surrogacy (Regulation) Act, 2021** is passed by the Parliament of India to regulate and oversee the practice of surrogacy in the country.
- Prior to the enactment of this law, surrogacy was largely unregulated in India, leading to various ethical and legal dilemmas.
- The main objective of this act is to prevent the commercialization of surrogacy, ensure the rights and well-being of surrogate mothers and children born out of surrogacy, and set conditions under which surrogacy can be performed.

Assisted Reproductive Technology (ART)

- Assisted Reproductive Technology is used to treat infertility.
- Fertility therapies that use both a woman's egg and a man's sperm are included.
- It produces embryos by extracting eggs from a woman's body and combining them with sperm. The embryos are subsequently implanted into the woman's body.
- Donor eggs, donor sperm, or already frozen embryos are sometimes used in ART operations. A surrogate carrier may also be used.
- The ART (Assisted Reproductive Technology Act) Regulation 2021 establishes a structure for implementing surrogacy law by establishing the National Assisted Reproductive Technology and Surrogacy Board.
- The Act's goals include the regulation and oversight of ART clinics and assisted reproductive technology banks, the avoidance of abuse, and the safe and ethical provision of ART services.
- The services can be made available to a woman over the age of 21 but under the age of 50, and to a man over the age of 21 but under the age of 55, under the Act.
- Gamete donation, intrauterine insemination, and in-vitro fertilization, or IVF, are all examples of ART techniques.

Surrogacy (Regulation) Act, 2021

- Here are some key details and provisions of the Surrogacy (Regulation) Act, 2021:
- **Prohibition of Commercial Surrogacy:** The act prohibits commercial surrogacy, which involves a surrogate mother receiving monetary compensation (other than medical expenses) for carrying a child. Only altruistic surrogacy, where no monetary benefit (except for medical expenses) is provided to the surrogate, is allowed.
- **Eligibility for Intending Couples:** The act specifies that only Indian married couples can avail of surrogacy. They should be legally married for at least five years,

with the woman being between 23 to 50 years and the man between 26 to 55 years. Additionally, the couple should have a medical certificate indicating their need for surrogacy.

o **Eligibility for Surrogate Mothers:** A surrogate mother should be a close relative of the intending couple, married, and have at least one biological child of her own. She should be aged between 25 to 35 years and should not have been a surrogate more than once.

o **Prohibition on Sale of Human Embryos:** The act strictly prohibits the sale or import of human embryos for surrogacy.

o **Establishment of Regulatory Bodies:** The act calls for the creation of the National Surrogacy Board at the central level and State Surrogacy Boards at the state level. These boards will regulate and oversee surrogacy clinics and practices.

o **Rights of a Child Born through Surrogacy:** A child born through surrogacy will have the same rights and privileges as a biological child.

o **Provisions against Exploitation:** The act includes measures to prevent the exploitation of both surrogate mothers and children born through surrogacy.

o **Penalties:** Engaging in commercial surrogacy, abandoning or exploiting the child, or importing embryos can result in imprisonment and fines.

o **Ethical Guidelines:** The act mandates surrogacy clinics to follow certain prescribed guidelines that ensure ethical practices.

Challenges / Criticism Related to Surrogacy Regulations

- The two Acts have been criticized as **discriminatory towards unmarried men** who want to become fathers through surrogacy or married women who already have children and want to extend their family through the technique.
- **Disqualifying** others on the basis of their nationality, marital status, sexual orientation, or age fails the equality test.
- Reproductive autonomy, which includes the right to procreation and parenthood, is outside the purview of the state.
- **Infertility** cannot be required to pursue surrogacy: the certificate to establish infertility is an invasion of privacy under **Article 21** of the Constitution.
- **Surrogacy Hub in India:** India has emerged as a hotspot for infertility treatment, luring people from all over the world with its cutting-edge technology and reasonable pricing to cure infertility.
- The altruistic paradigm assumes that a woman will undergo the physical and mental tolls of surrogacy for free and only out of compassion. In its approach, such an expectation is paternalistic, unreasonable, and patriarchal.
- It denies surrogates a valid source of income, which substantially limits the number of women prepared to

go through surrogacy and, indirectly, denies intending parents the option to use it.

Challenges Associated with Cross Border Surrogacy

- Cross-border childless couples must not only deal with the language barrier, but they must also sometimes fight long legal battles to obtain custody of their children.
- Cross-border surrogacy also causes issues with citizenship, nationality, motherhood, parenthood, and child rights.
- Children are sometimes denied the nationality of the intended parents' country.
- The lack of an international legislation on surrogacy complicates matters for both surrogates and intended parents. It is possible that the surrogacy legislation in the home nation and the country where the baby is born differ.
- Many experts believe that a worldwide agreement comparable to the Hague Adoption Convention might bring consistency across countries, streamlining the adoption process.

Surrogacy Laws in Other Countries

- While countries such as the United Kingdom, the United States, Australia, the Netherlands, and Denmark allow altruistic surrogacy, countries such as France, Germany, Italy, Spain, Portugal, and Bulgaria outlaw all types of surrogacy.
- Both altruistic and commercial surrogacy are permitted in Armenia, Georgia, Kazakhstan, Russia, and Ukraine.
- Surrogacy is not illegal in Kenya, Malaysia, or Nigeria, although there is no specific legislation to govern the practice.
- Surrogacy is unregulated in the Czech Republic, Colombia, Chile, and Hungary, among other countries.

Important Constitutional Provisions

- **Article 21 – Right to Life and Personal Liberty**: The Supreme Court of India has expansively interpreted the right to life and personal liberty to encompass the right to health and the right to make decisions about one's body.
- **Article 14 – Right to Equality**: The Article ensures that the state shall not deny any person equality before the law or the equal protection of the laws. Discrimination in access to reproductive health services or forced sterilizations would violate this right.
- **Article 15 – Prohibition of Discrimination**: This Article prohibits discrimination on the grounds of religion, race, caste, sex, or place of birth. Any legislation or policy that discriminates against women in terms of their reproductive rights could be challenged using this article.
- **Article 19 – Freedom of Expression:** While primarily concerning the freedom of speech and expression, this can be linked to reproductive rights in terms of the freedom to seek, receive, and impart information, including information about reproductive health.

What is the Original Jurisdiction of the High Court?

- The term **"original jurisdiction"** refers to the **power of a court to hear a case for the first time,** as opposed to appellate jurisdiction where it hears cases on appeal. Here's a broad overview of the original jurisdiction of High Courts in India:
  o Writ Jurisdiction (Article 32 & 226)
  o Matters of Admiralty, Probate, Matrimonial, and Contempt of Court: ·
  o Disputes Relating to Elections of Members of the State Legislature·
  o Certain Civil Cases in Presidencies
  o Inter-State Water Disputes·
  o Cases Transferred from Lower Courts

Conclusion

- The Delhi High Court is actively seeking clarity from the Centre regarding the apparent discrimination in the surrogacy laws, especially towards single, unmarried women. The outcome of this case could potentially reshape the surrogacy regulations in India.

MCQs

Q. In the context of recent advances in human reproductive technology, "Pronuclear Transfer" is used for (UPSC 2020)

(a) fertilization of egg in vitro by the donor sperm
(b) genetic modification of sperm producing cells
(c) development of stem cells into functional embryos
(d) prevention of mitochondrial diseases in offspring

Answer: (d)

Eradicate Manual Scavenging, SC Tells Centre, States

Priority: High

Primary Source: The Hindu

Relevance Social empowerment, communalism, regionalism & secularism, Government policies and interventions for development in various sectors and issues arising out of their design and implementation, Welfare schemes for vulnerable sections of the population by the Centre and States and the performance of these schemes;
Prepp Prelims Booster: Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013.
Prepp Mains Booster: Manual Scavenging in India, Associated Concerns and Steps taken by the Government to Eliminate it.

Why in the news?

- The **Supreme Court, in a recent judgment, emphasized the need to completely eradicate the inhumane practice of manual scavenging, which still persists even after being outlawed.**
- The court had taken judicial notice of the **petition filed in 2020 by Balram Singh, which brought to its attention the alarming fact that despite the ban on the practice, individuals were still losing their lives in sewers.**

What did the Supreme Court say?

- The court held that the **Union and States are responsible for ensuring strict implementation of the Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013.**
- The Supreme Court emphasized that **ideals of fraternity, equality, and dignity for all citizens remain elusive as long as a significant portion of our society is compelled to engage in the hazardous and inhumane occupation of manual scavenging,** even years after its prohibition.
- Justice S.R. Bhat, leading the bench, expressed that society owes a debt to this marginalized population who have long been invisible and unheard.
- The **court increased the compensation for sewer deaths to ₹30 lakh from the previous ₹10 lakh.**

What is Manual Scavenging?

- Manual scavenging **refers to the practice of manually cleaning, handling, and disposing of human excreta and other waste materials from dry latrines, open drains, and sewers.**
- It is defined as '*the removal of human excrement from public streets and dry latrines, cleaning septic tanks, gutters and sewers*'.
- Manual scavenging and deaths of people trapped in sewer lines **continue though the practice was banned with the introduction of the Employment of Manual Scavengers and Construction of Dry Latrines (Prohibition) Act, 1993 and the Prohibition of Employment as Manual Scavengers and Their Rehabilitation Act, 2013.**

How does Manual Sacvenging effect individuals?

- **Health Hazards:** Manual scavengers are exposed to grave health risks due to their direct contact with human waste and harmful substances. They are highly susceptible to contracting diseases like cholera, typhoid, hepatitis, and respiratory infections. The lack of proper protective equipment and unsanitary conditions further intensify these health hazards, resulting in a higher incidence of illnesses and untimely deaths among manual scavengers.
- **Dignity and Human Rights Violations:** Manual scavenging constitutes a blatant violation of the dignity and human rights of those engaged in this occupation. It subjects individuals to degrading and inhumane conditions, compelling them to handle human waste without adequate protection and depriving them of basic sanitation facilities. This occupation perpetuates social stigma, discrimination, and marginalization, often rooted in caste-based
- **Psychological and Emotional Trauma:** Engaging in manual scavenging inflicts severe psychological and emotional distress on those involved. The constant exposure to filth, the indignity of the work, and the discrimination they face take a substantial toll on their mental well-being. Manual scavengers frequently experience feelings of shame, low self-esteem, and

depression, which can lead to long-term psychological trauma.

What are the Constitutional Safeguards for Manual Scavengers?

* **Article 14:** Equality before the law and equal protection of the laws.
* **Article 17:** Abolition of untouchability and prohibition of its practice in any form.
* **Article 21:** Protection of life and personal liberty.
* **Article 23:** Prohibition of traffic in human beings and forced labour.

Government's Initiatives to Curb Manual Scavenging

* **Employment of Manual Scavengers and Construction of Dry Latrines (Prohibition) Act, 1993**: It banned the practice of manual scavenging.
* **Prohibition of Employment as Manual Scavengers and Their Rehabilitation Act, 2013:** In 2013, the Government introduced this act which reinforced the ban on the practice and aimed to rehabilitate those employed as manual scavengers.
* **National Commission for Safai Karamcharis (NCSK):** In 1993, NCSK was established under the provisions of the NCSK Act, 1993 to recommend specific programmes for the welfare of the Safai Karamcharis.
* **National Safai Karamcharis Finance and Development Corporation**: It was formed as a not-for-profit company under the Ministry of Social Justice and Empowerment. Its objective is to socially and economically uplift the Safai Karamcharis, scavengers, and their dependents.
* **Swachhta Abhiyan App:** The government introduced the Swachhta Abhiyan App which was developed to identify and geotag data related to insanitary latrines and manual scavengers. This would enable the replacement of the insanitary latrines with sanitary latrines and the rehabilitation of the manual scavengers and assure them of a life with dignity.
* **Supreme Court Judgement:**
  o The Supreme Court of India had in its 2014 judgment in the **Safai Karamchari Andolan and Others vs Union of India** reaffirmed the prohibition on manual scavenging and directed the government to rehabilitate those employed traditionally or otherwise in the practice on the basis of the principles of justice and transformation.
  o In its judgment in the **Delhi Jal Board vs National Campaign for Dignity and Rights of Sewerage and Allied Workers & Ors (2011)**, the Supreme Court stated that the human beings who are employed as sewer cleaners cannot be treated as mechanical robots who are unaffected by poisonous gases.

Some Schemes

* **NAMASTE Scheme:** It was launched in 2022 as a Central Sector Scheme. The scheme is being undertaken jointly by the Ministry of Housing and Urban Affairs and the Ministry of Social Justice &

Empowerment (MoSJE) and aims to eradicate unsafe sewer and septic tank cleaning practices.

* **Rashtriya Garima Abhiyan:** Rashtriya GarimaAbhiyan (National Campaign for Dignity and Eradication of Manual Scavenging) aims eradication of inhuman practice of manual scavenging and comprehensive rehabilitation of manual scavengers in India.
* **Atal Mission for Rejuvenation and Urban Transformation:** It has led to the development of infrastructure such as sewerage networks, sewerage treatment plants across 500 cities.

Way Ahead

* It is crucial for nations to accurately assess and take ownership of the issue by determining the exact number of workers involved in cleaning up toxic waste. It is essential for understanding the scale of the problem, identifying the affected individuals, and planning effective interventions and policies.
* The Swachh Bharat Mission, recognized as a top priority and the availability of funds for smart cities and urban development present a compelling opportunity to address the issue of manual scavenging.
* To address the deeply rooted social stigma associated with manual scavenging, it is essential to acknowledge and understand why this practice continues to be intertwined with the caste system.
* Implementing stringent legal measures that obligate government institutions to provide sanitation services rather than relying on manual scavengers is a critical step in safeguarding the rights of these workers.

UPSC Previous Year Mains Question:

1. What are the areas of prohibitive labour that can be sustainably managed by robots? Discuss the initiatives that can propel the research in premier research institutes for substantive and gainful innovation. **(UPSC 2015)**

MCQ

Question: 'Rashtriya Garima Abhiyaan' is a national campaign to **(UPSC 2016)**

a.) rehabilitate the homeless and destitute persons and provide them with suitable sources of livelihood

b.) release the sex workers from their practice and provide them with alternative sources of livelihood

c.) eradicate the practice of manual scavenging and rehabilitate the manual scavengers

d.) release the bonded labourers from their bondage and rehabilitate them

Answer: (c)

Though Not Elected, Judges Have Vital Role To Play In Evolution Of Societies:

Priority: High

Primary Source: The Hindu

Relevance: Indian Constitution; Judiciary; Governance

Prepp Prelims Booster: Indian Judicial System, Vishaka and State of Rajasthan, Nirbhaya Case, Triple Talaq Judgement, Lily Thomas vs Union of India (2000):
Prepp Mains Booster: Issues Related To the Indian Judiciary and its Role in Society

Why in the news?
- Recently, **Chief Justice of India D.Y. Chandrachud, addressed criticism about judges venturing into the executive's domain** during **3rd Comparative Constitutional Law discussion co-hosted by the Georgetown University Law Center, Washington and the Society for Democratic Rights (SDR),** New Delhi, titled '*Perspectives from the Supreme Courts of India and the United States*.'
- The judiciary, as one of the three pillars of democracy, plays a pivotal role in shaping the legal landscape and societal norms. This article delves into the multifaceted role of the judiciary in ensuring justice, safeguarding fundamental rights, and fostering societal transformation.

Role of Judiciary & its role in society

1. Dispensing Justice: The primary function of the judiciary is to provide justice to individuals and entities that seek redress for grievances. It serves as a neutral and impartial forum where disputes are resolved and rights are upheld. The judiciary ensures that justice is served, and individuals have access to a fair and equitable legal system.

2. Safeguarding Fundamental Rights: The judiciary acts as a guardian of the Constitution and fundamental rights. It ensures that laws and government actions do not infringe upon these rights. Through the power of judicial review, the judiciary examines the constitutionality of laws and government decisions, protecting citizens from arbitrary or unconstitutional actions.

3. Interpretation of Laws: Judges interpret and apply the law to resolve disputes and make decisions in cases. They provide clarity on how the law should be applied in specific situations. This role is crucial in ensuring that the legal system functions effectively and consistently.

4. Promoting Equity and Fairness: Judges work to ensure that justice is accessible to all, regardless of their background. They interpret the law in a manner that promotes equity and fairness. This includes decisions on evidence admissibility, trial procedures, and protecting individual liberties.

5. Upholding the Constitution: The judiciary, especially the Supreme Court, serves as the guardian of the Constitution. It resolves conflicts between the central and state governments, ensuring that the Constitution's principles are upheld. It can invalidate laws or government actions that violate the constitutional framework.

6. Encouraging Deliberation in Lawmaking: The judiciary can influence the legislative process by making deliberation a factor in evaluating the constitutional validity of laws. Judges can examine the legislative inquiry, evaluate the factual basis justifying a law, and assess its necessity and proportionality concerning its impact on fundamental rights.

7. Fostering Societal Transformation: Judges have a crucial role in fostering societal transformation. They address historical discrimination and promote social change through the peaceful means of the constitution. By upholding constitutional values such as fraternity, equality, brotherhood, and unity, they contribute to a more just and inclusive society.

8. Ensuring Accountability: The judiciary holds government and public officials accountable for their actions. It can order inquiries, investigations, and legal proceedings to ensure that those in power are answerable for their decisions and actions.

9. Balancing Powers: The judiciary acts as a check and balance on the executive and legislative branches of government. It ensures that these branches do not exceed their constitutional authority and that they act within the bounds of the law.

10. Encouraging Transparency: Judicial proceedings are typically conducted in a transparent and open manner. This transparency ensures that the public can scrutinize and understand the legal process, promoting trust in the justice system.

Important Judgements which has played a vital role in Evolution of Societies
- **Same Sex Marraige:** Recently, the Supreme Court has ruled against legalising same sex marriage in India. It was stated tha marriage, according to the court, is an institution set up under law and same-sex couples do not have a right to participate in it unless the law permits them to do so.
- **Vishaka and State of Rajasthan (1997):** This case dealt with sexual harassment at the workplace. In the judgement, the SC gave a set of guidelines for employers as well as other responsible persons or institutions, to immediately ensure the prevention of sexual harassment.
- **Nirbhaya Case (2014):** This case let to the introduction of Criminal Law (Amendment) Act, 2013 and definition of rape under the Protection of Children from Sexual Offences Act, 2012, the Indian Evidence Act, 1872, Indian Penal Code, 1860 and Code of Criminal Procedures, 1973.
- **Triple Talaq Judgement (2016):** The SC outlawed the backward practice of instant 'triple talaq', which permitted Muslim men to unilaterally end their marriages by uttering the word "talaq" three times without making any provision for maintenance or alimony.
- **Lily Thomas vs Union of India (2000):** The Supreme Court held that the second marriage of a Hindu man without divorcing the first wife, even if the man had converted to Islam, is void unless the first marriage had been dissolved according to the Hindu Marriage Act.

Role of Judges in India's Judiciary

- **Adjudication:** Judges are primarily responsible for adjudicating legal disputes and ensuring that justice is served. They interpret and apply the law to resolve disputes between parties, whether they are individuals, organizations, or the government.
- **Upholding the Constitution:** Judges play a crucial role in upholding the Constitution of India. They have the authority to review and strike down laws or government actions that are found to be in violation of the constitutional principles.
- **Interpreting Laws:** Judges are responsible for interpreting statutes, legal precedents, and legal principles to make decisions in cases. They provide clarity on how the law should be applied in specific situations.
- **Protecting Fundamental Rights:** Judges safeguard the fundamental rights of citizens by ensuring that laws and government actions do not infringe upon these rights. They can issue writs like Habeas Corpus and Mandamus to protect individual liberties.
- **Ensuring Fair Trials:** Judges are responsible for ensuring that trials are conducted fairly, impartially, and in accordance with due process. They make decisions on issues like evidence admissibility, witnesses, and trial procedures.
- **Judicial Review:** Judges have the power of judicial review, which allows them to examine the constitutionality of laws and government actions. This is a crucial check and balance in the Indian system of government.
- **Promoting Access to Justice:** Judges work to ensure that justice is accessible to all, regardless of their background, by interpreting the law in a manner that promotes equity and fairness.

Conclusion

The judiciary's role in society goes beyond the mere dispensation of justice. It is instrumental in safeguarding fundamental rights, promoting equity, and fostering societal transformation. By upholding the Constitution and ensuring the accountability of government actions, the judiciary plays a vital role in shaping the legal and societal landscape, thereby contributing to a just and equitable society.

Previous Year Mains Question:
1.   Critically examine the Supreme Court's judgement on 'National Judicial Appointments Commission Act, 2014' with reference to appointment of judges of higher judiciary in India. **(UPSC 2017)**
2.   Starting from inventing the basic structure doctrine, the judiciary has played a highly proactive role in ensuring that India develops into a thriving democracy. In light of the statement, evaluate the role played by judicial activism in achieving the ideals of democracy. **(UPSC 2014)**

MCQ
Question: Who/Which of the following is the custodian of the Constitution of India? **(UPSC 2015)**
a.   The President of India
b.   The Prime Minister of India
c.   The Lok Sabha Secretariat
d.   The Supreme Court of India
Answer: (d)

Ethics, Parliamentary Conduct and the Indian MP

Priority: Medium
Primary Source: The Hindu
Relevance: Parliament & State Legislatures – Structure, Functioning, Conduct of Business, Powers & Privileges and Issues Arising out of these
Prepp Prelims Booster: Ethics Committee, Committee of Privileges, Parliamentary procedures
Prepp Mains Booster: Issues Related to Ethics and Privileges of Members of Parliament

Why in the news?
- The article discusses the ethical conduct of Indian Members of Parliament (MPs), specifically focusing on the recent proceedings by the Lok Sabha Ethics Committee against an MP from West Bengal.
- The said MP is alleged to have received money from a businessman for asking questions in Parliament, which is considered a breach of privilege and contempt of the House.

Background of the Case
- Allegations have been made against a Member of Parliament (MP) regarding unethical conduct.
- The allegation involves receiving money from a businessman.
- In exchange for the money, the MP is accused of raising questions in Parliament to benefit the businessman's interests.
- A senior Member of Parliament has initiated the complaint.
- Following this allegation, the Speaker of the Lok Sabha referred the matter to the Lok Sabha Ethics Committee for further investigation and to produce a report on the matter.

The Dilemma of Online Question Submission
- Members of Parliament are often too busy to personally write out questions for submission, leading to a practical need for assistance.
- MPs commonly delegate the task of writing and submitting questions to their personal assistants, which involves sharing passwords and login details.
- There are currently no established Lok Sabha rules regulating the online submission process of questions by MPs.
- MPs have the liberty to hire any individual to assist with their parliamentary duties without the requirement to disclose their information sources.

- **Under Article 105 of the Indian Constitution**, MPs have the right to express themselves freely in the House, which by extension, includes freedom in their methods of gathering information for parliamentary duties.
- Investigating the sources of an MP's information might lack legal backing, given the protections afforded by the Constitution.
- Despite these freedoms, Parliament retains the authority to discipline its members as it sees fit.

Past Instances of Ethical Breaches and Parliamentary Misconduct

H.G. Mudgal Case (1951)

- H.G. Mudgal, a member of the Provisional Parliament, was found guilty of advocating for the interests of a business association in exchange for financial benefits.
- He had been putting up questions and moving amendments to legislation that favored that business association.
- A special committee concluded that Mudgal's actions were detrimental to the dignity of the House and contradicted the standards expected of its members.
- Mudgal resigned before he could be expelled, which was the recommended action.

Sting Operation (2005)

- A sting operation by a private television channel exposed 10 Lok Sabha MPs accepting money in exchange for raising questions in Parliament.
- A special committee appointed to investigate these actions found the MPs guilty of conduct that was unbecoming of a Member of Parliament.
- The committee's recommendation to expel all the guilty MPs was accepted by the House, and they were subsequently expelled.

Misrepresentation on Official Tour

- An unnamed MP was found to have taken a female companion, misrepresenting her as his wife, on a parliamentary tour.
- The Ethics Committee deemed this an unethical act, resulting in the MP's suspension from 30 sittings of the House and a prohibition from taking any companion or spouse on official tours until the end of that Lok Sabha's tenure.

Passports Act Violation

- Another case involved an MP who took a woman and a boy on a foreign tour using the passports of his wife and son, a serious violation of the Passports Act.
- A special inquiry committee found him guilty of grave misconduct and contempt of the committee, recommending his expulsion.

What is the Ethics Committee?

- The Ethics Committee of the Lok Sabha is a key body within the Indian parliamentary system responsible for maintaining and overseeing the ethical conduct of Members of Parliament (MPs).
- The Lok Sabha Ethics Committee was established in 2000, underscoring the parliamentary commitment to upholding the highest standards of ethical conduct within its ranks.
- Its primary mandate is to examine complaints related to the unethical behavior of MPs and to recommend suitable actions. Additionally, the committee is charged with formulating a code of conduct for the members.
- The committee operates on complaints referred to it concerning the behavior of MPs that could be considered unethical. However, the term "unethical conduct" has not been strictly defined, giving the committee a broad scope to interpret actions on a case-by-case basis.
- While the Ethics Committee does not handle criminal investigations—such activities are within the purview of law enforcement agencies—it does have the authority to scrutinize the actions of MPs and recommend actions that the House might take to preserve its integrity and discipline members.
- The Ethics Committee has considerable discretion in deciding what is considered unethical conduct and the appropriate actions to be taken.
- Their decisions are based on examinations of evidence and do not follow the formal rules of evidence as in a judicial court.
- The Ethics Committee plays a crucial role in preserving the sanctity of parliamentary proceedings by ensuring that members adhere to expected ethical standards and by acting as a deterrent to misconduct.

Ethics Committee vs. Privileges Committee

Aspect	Ethics Committee	Privileges Committee
Establishment	Established in 2000.	An older committee, integral to the parliamentary system from early on.
Purpose	To examine complaints of unethical behavior and formulate a code of conduct.	To investigate complaints of breach of parliamentary privilege and contempt.
Scope of Issues	Broadly covers unethical conduct, not strictly defined.	Specifically deals with breaches of parliamentary privileges and contempt.
Definition of Mandate	"Unethical conduct" is not explicitly defined; left to	Focuses on specific breaches of

	committee discretion.	privilege and instances of contempt.
Types of Investigations	Examines a wide range of ethical issues and personal conduct.	Investigates specific allegations of privilege breaches and contempt of the House.
Authority	Can recommend actions to maintain ethical standards among MPs.	Has the power to recommend punitive measures for breaches of privilege.
Legal Involvement	Does not involve legal/criminal investigations.	Can lead to legal consequences, especially in cases of criminal acts.
Outcome of Processes	Recommendations can lead to censure or suspension from House sittings.	Can lead to serious repercussions, including expulsion from the House.
Precedents	Relatively newer, with fewer past precedents.	Has a long history of addressing various issues, with many precedents.

What are Parliamentary Committees?
- Parliamentary Committees are small groups of Members of Parliament (MPs) constituted by the House of Parliament, which work on behalf of the Parliament for a variety of purposes.
- They scrutinize the work of the government, examine bills, budgets, and policies, and make recommendations for improvement.
- They enable detailed analysis and research on legislative and policy issues, which is often not feasible in larger plenary sessions of the full Parliament.
- Committees consist of members from different political parties, reflecting the composition of the Parliament. They are smaller than the full Parliament, making them more manageable and functional for detailed work.
- There are two main types of Parliamentary Committees - Standing Committees and Ad Hoc Committees.

- **Standing Committees** are permanent and reconstituted periodically, typically annually. They cover various functions such as financial oversight, departmental scrutiny, and ethics.
- **Ad Hoc Committees** are temporary and created for a specific purpose. Once their task is completed, they are dissolved.
- Committees operate according to specific procedures. Their meetings are usually closed to the public and the press, allowing for candid discussions.
- After their deliberations, committees prepare reports with their findings and recommendations. These reports are then typically presented to the full Parliament for consideration.
- While the committees play a crucial role in the functioning of Parliament, they do not have the final say on legislation or policies. Their role is advisory, and their recommendations are not binding on the House or the government.
- Parliamentary Committees thus act as the backbone of the legislative process, enhancing its effectiveness and ensuring governmental accountability.

Nature of Investigation and Probe
- The investigation into the MP's conduct is a parliamentary probe, not a judicial one.
- The probe is carried out by a parliamentary committee, in this case, the Lok Sabha Ethics Committee, which is different from a court of law.
- The committee's members are fellow MPs, not legally trained judges or lawyers.
- The Ethics Committee is tasked with investigating allegations of unethical conduct.
- However, if the allegations against the MP involve illegal gratification for parliamentary work, then it becomes a matter of breach of privilege, which is typically handled by the Committee of Privileges.
- The committee investigates by examining written documents, taking oral evidence from witnesses, and possibly hearing from experts.
- MPs under investigation have certain rights, such as appearing before the committee, potentially through an advocate, and cross-examining witnesses with permission.
- The findings of the committee are based on a preponderance of probabilities rather than the strict legal standards of evidence required in a court of law.
- They apply common sense and the principles of natural justice to arrive at their conclusions.
- The committee can recommend actions to the House based on its findings. While the committee does not impose legal penalties, its recommendations can lead to disciplinary measures such as suspension from the House or expulsion in severe cases.
- If the allegations also involve criminal activity, such as accepting a bribe, those aspects are investigated by

law enforcement and the MP could face criminal charges separately from any parliamentary discipline.

Parliamentary Probe vs. Judicial Probe

Feature	Parliamentary Probe	Judicial Probe
Authority	Conducted by parliamentary committees made up of MPs.	Conducted by the judiciary, with legally trained judges and magistrates.
Purpose	To ensure adherence to parliamentary ethics and privileges.	To adjudicate legal rights and responsibilities, determine guilt, and impose legal sanctions.
Procedures	Follows parliamentary rules and procedures.	Governed by laws, legal procedures, and rules of evidence.
Legal Binding	Recommendations are not legally binding but can lead to parliamentary action.	Decisions are legally binding and enforceable by law.
Representation	MPs can represent themselves or be represented by an advocate with permission.	Parties are usually represented by lawyers.
Scope of Investigation	Limited to matters of parliamentary ethics and privilege.	Can cover any matter within the scope of law.
Standards of Proof	Based on preponderance of probabilities and parliamentary norms.	Based on legal standards such as "beyond a reasonable doubt" or "preponderance of evidence".
Outcomes	Recommendations to the House, such as reprimands, suspensions, or expulsions.	Legal judgments, including fines, injunctions, or imprisonment.
Public Access	Generally conducted in private.	Generally conducted in public, except for some sensitive cases.
Evidence	Parliamentary rules determine the relevance of evidence.	Bound by the Rules of Evidence as per the law.
Appeal Process	Typically, there is no formal appeal process within the parliamentary system.	Allows for appeals to higher courts.
Investigative Focus	Focus on maintaining the integrity and functioning of the parliamentary institution.	Focus on determining legal liability and justice.

Conclusion

The ethical conduct of Indian Members of Parliament (MPs) is vital to uphold the integrity of the parliamentary system. The recent case involving allegations of receiving money for raising questions in Parliament highlights the importance of robust parliamentary committees, such as the Lok Sabha Ethics Committee and the Committee of Privileges, in investigating and addressing such matters. While MPs enjoy certain privileges, there is an ongoing need to strike a balance between their freedom of expression and the maintenance of ethical standards. The parliamentary committee system, along with evolving guidelines and regulations, plays a crucial role in ensuring transparency, accountability, and adherence to ethical norms within the Indian Parliament.

UPSC Previous Year Practice Question

Q. Explain the structure of the Parliamentary Committee system. How far have the financial committees helped in the institutionalisation of Indian Parliament? **(2023)**

Q. Do Department-related Parliamentary Standing Committees keep the administration on its toes and inspire reverence for parliamentary control? Evaluate the working of such committees with suitable examples. **(2021)**

Q. To what extent, in your view, the Parliament is able to ensure accountability of the executive in India? **(2021)**

Q. Why do you think the committees are considered to be useful for parliamentary work? Discuss, in this context, the role or the Estimates Committee. **(2018)**

Q. The 'Powers, Privileges and Immunities of Parliament and its Members' as envisaged in Article 105 of the Constitution leave room for a large number of un-codified and un-enumerated privileges to continue. Assess the reasons for the absence of legal codification of the 'parliamentary privileges'. How can this problem be addressed? **(2014)**

MCQs

Q. With reference to the Parliament of India, which of the following Parliamentary Committees scrutinizes and

reports to the House whether the powers to make regulations, rules, sub-rules, by-laws, etc. conferred by the Constitution or delegated by the Parliament are being properly exercised by the Executive within the scope of such delegation? (UPSC 2018)
a) Committee on Government Assurances
b) Committee on Subordinate Legislation
c) Rules Committee
d) Business Advisory Committee
Answer: (b)

Q. Which one of the following is the largest Committee of the Parliament? (UPSC 2014)
(a) The Committee on Public Accounts
(b) The Committee on Estimates
(c) The Committee on Public Undertakings
(d) The Committee on Petitions
Answer: (b)

Baiga Tribal Group Gets Habitat Rights In Chhattisgarh

Priority: Medium
Primary Source: The Indian Express
Relevance: Government policies and interventions for development in various sectors; Welfare schemes for vulnerable sections of the population by the Centre and States and the performance of these schemes
Prepp Prelims Booster: Baiga Tribals, PVTGs, Forest conservation Act, 2006, Important Tribes & their geographical location
Prepp Mains Booster: PVTGs, Habitat Rights of Baiga Tribals related constitutional provisions and issues

Context
- Recently, **Baiga Particularly Vulnerable Tribal Group (PVTG) became the second community in Chhattisgarh to get habitat rights in the state, after the Kamar PVTG.**

What are Habitat Rights?
- The recognition provides the community concerned rights over their:
  o customary territory of habitation,
  o socio-cultural practices,
  o economic and livelihood means,
  o intellectual knowledge of biodiversity and ecology,
  o traditional knowledge of use of natural resources,
  o protection and conservation of their natural and cultural heritage
- Habitat rights safeguard and promote traditional livelihood and ecological knowledge passed down through generations.
- Grant of habitat rights provide an additional layer of legal protection.
- They also help converge different government schemes and initiatives from various departments to empower PVTG communities to develop their habitats.
- If any kind of development activity is hampering their habitat rights, the tribal group can take up the matter

with the administration under the Forest Rights Act, and if not resolved, the matter can be taken to court.

- **Habitat rights are extended to Particularly Vulnerable Tribal Groups (PVTGs) through section 3(1)(e) of the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act,** 2006, commonly referred to as the Forest Rights Act (FRA).
  o This provision pertains to community tenures of habitat and habitation for primitive tribal groups and pre-agricultural communities.
  o According to Section 2(h) of FRA:"Habitat includes the area comprising the customary habitat and such other habitats in reserved forests and protected forests of primitive tribal groups and pre-agricultural communities and other forest dwelling Scheduled Tribes."
- **States which have recognised habitat rights:** Out of 75 PVTG in India, only three have habitat rights. The Bharia PVTG in Madhya Pradesh was the first, followed by the Kamar tribe and now the Baiga tribe in Chhattisgarh.

Habitat Rights Under FRA, 2006
- Right to perform all customary religious or cultural ceremonies in the landscape related to their clans Right to protect and conserve the natural entities and sacred sites recognized under habitat rights.
- Right to protect and conserve places important for religious and spiritual purposes such as sacred groves;
  o the right of passage to abodes of deities in forests, hill tops, origin of rivers and other remote parts of forests.
  o Right to practice traditional cultivation systems and other livelihood generating activities including seasonal resource use.
- Habitat rights exclude any traditional right of hunting or trapping or extracting a part of the body of any species of wild animal.

How does the Government fix a Habitat?
- The government fixes a habitat in consultation with traditional tribal leaders, following guidelines provided by the **Ministry of Tribal Affairs in 2014.**
- These guidelines involve consulting with tribal leaders to understand the culture, traditions, and occupation of the tribe.
- Once the information is verified and supported by the government, a specific area is officially declared as a habitat for the tribe.

About Baiga PVTG
- The **Baiga** are an ethnic group found in central India primarily in the state of **Madhya Pradesh**, and in smaller numbers in the surrounding states of **Uttar Pradesh, Chhattisgarh and Jharkhand**.

- The largest number of Baiga is found in **Baiga-chuk** in **Mandla district** and **Balaghat district of Madhya Pradesh**.
- Traditionally, the **Baiga lived a semi-nomadic life** and practiced slash-and-burn cultivation. Now, they are mainly dependent on minor forest produce for their livelihood. They practice a form of shifting cultivation called, "**Bewar**"

PVTGs in Chhattisgarh

- There are seven PVTGs in Chhattisgarh, who live in 17 of the state's 33 districts, which include **Kamar, Baiga, Pahadi Korba, Abujhmadiya, Birhor, Pando and Bhunjia.**
- The total population of PVTG tribes in Chhattisgarh as per the 2015-2016 survey is 2.50 lakh while the population of tribals in Chhattisgarh as per the 2011 census is 78.22 lakh.

Who are Particularly Vulnerable Tribal Groups (PVTGs)?

- PVTGs, or **Particularly Vulnerable Tribal Groups, are tribal communities identified by the Ministry of Tribal Affairs as technologically backward, with stagnant or declining population growth, extremely low literacy rates, and subsistence-level economies.**
- They typically have poor health indices and inhabit remote and isolated regions in small and scattered settlements.
- **In 1973, the Dhebar Commission created Primitive Tribal Groups (PTGs) as a separate category,** which are less developed among the tribal groups. In 2006, the Government of India renamed the PTGs as PVTGs.
- The **Ministry has identified 75 PVTGs in 18 states and one Union Territory out of 705 Scheduled Tribes.**

Government's Initiatives for PVTGs

- **In 2019, the Ministry of Tribal Affairs started a scheme** for their protection and improvement in terms of social indicators like livelihood, health, nutrition and education to decrease their vulnerability.
- **In the budget of 2023,** the Government announced a mission to develop Particularly Vulnerable Tribal Groups. 22,544 villages with about 28 lakh PVTG population have been identified to saturate essential services under the scheme.

Constitutional Provisions related to Tribes in India

- The **Constitution of India recognizes certain tribes as Scheduled Tribes, based on criteria such as their distinctiveness, primitive traits, geographical isolation, and socio-economic backwardness.**
- Article 342 of the Constitution empowers the President to notify Scheduled Tribes in consultation with the Governor of the concerned state.
- **Protection from Discrimination:** Article 15(4) of the Constitution allows for special provisions to be made for the advancement of socially and educationally backward classes, including Scheduled Tribes.
- **Political Representation:** Article 330 reserves seats for Scheduled Tribes in the Lok Sabha (the lower house of

the Parliament of India), while **Article 332** provides for the reservation of seats in state legislative assemblies for STs. This ensures political representation for tribes at both the national and state levels.
- **Protective Measures:** Article 46 of the Constitution directs the state to promote the educational and economic interests of the weaker sections of society, including Scheduled Tribes, and protect them from social injustice and exploitation.
- **Cultural and Educational Rights:** Article 29(1) and Article 30 of the Constitution protect the cultural and educational rights of all citizens, including Scheduled Tribes.
- **Fifth Schedule:** The fifth Schedule contains provisions as to the Administration and Control of Scheduled Areas and Scheduled Tribes.
- **Sixth Schedule:** To protect the rights of tribal people, the Sixth Schedule allows the formation of Autonomous District Councils in Assam, Meghalaya, Tripura, and Mizoram.

Conclusion

The recognition of habitat rights is a significant step to protect the unique culture, knowledge, and way of life of these vulnerable tribal groups and ensure their sustainable existence. It provides legal protection and empowers them to engage with the government in matters related to their habitat and traditional practices.

PYQ

Question: Consider the following statements about Particularly Vulnerable Tribal Groups (PVTGs) in India: **(UPSC 2019)**

1.   PVTGs reside in 18 States and one Union Territory.
2.   A stagnant or declining population is one of the criteria for determining PVTG status.
3.   There are 95 PVTGs officially notified in the country so far.
4.   Irular and Konda Reddi tribes are included in the list of PVTGs.

Which of the statements given above are correct?

(a) 1, 2 and 3
(b) 2, 3 and 4
(c) 1, 2 and 4
(d) 1, 3 and 4

Answer: (c)

Question: Consider the following statements:
1. The definition of "Critical Wildlife Habitat" is incorporated in the Forest Rights Act, 2006.
2. For the first time in India, The Baiga have been given Habitat Rights.
3. Union Ministry of Environment, Forest and Climate Change officially decides and declares Habitat Rights for Primitive and Vulnerable Tribal Groups in any part of India.

Which of the statements given above is/are correct?
(UPSC CSE 2018)

a. 1 and 2 only
b. 2 and 3 only
c. 3 only
d. 1, 2 and 3
Answer: (a)

SC Asks States to Appoint Officers Under POSH Act

Priority: Medium
Primary Source: The Hindu
Relevance: Government Policies and Interventions for Development
Prepp Prelims Booster: Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act 2013
Prepp Mains Booster: Steps Taken for the Implementation of the Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act 2013

Why in the news?
- In a recent judgement, the Supreme Court identified a gap in the implementation of the **Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act**, commonly referred to as the **POSH Act, 2013.**

What was the Issue Highlighted?
- The court found out that many states had not taken the initiative to notify District Officers as required by the POSH Act.
- The challenge was the unavailability of designated **district officers** in every district to lodge complaints related to workplace sexual harassment.
- Importance of a District Officer as the main point of coordination and accountability for the POSH Act was emphasised.

Role of District Officers
The primary responsibilities and roles of a District Officer are:

1) Local Complaints Committee (LCC)
- The District Officer is responsible for constituting a Local Complaints Committee (LCC) at the district level.
- This committee is crucial for workplaces that have fewer than 10 employees and do not have an Internal Complaints Committee (ICC).
- The LCC also handles cases where the complaint is against the employer themselves.

2) Nodal Officer
- The District Officer can designate a nodal officer in every block, taluka, and tehsil in rural or tribal areas and

ward or municipality in the urban area, to receive complaints and forward them to the LCC.

3) Assistance to the LCC
- The District Officer is required to provide all necessary support for the conduct of an inquiry by the LCC, including providing assistance for securing the attendance of respondents and witnesses, discovery and production of documents, etc.

4) Annual Report
- The District Officer is mandated to forward a report annually with details of the number of cases filed and their disposition to the state government.

5) Awareness and Capacity Building
- The DO may take initiatives to create awareness about the rights of women workers under the POSH Act and also organize capacity-building programs for the members of the LCC.

6) Implementation & Monitoring
- The District Officer is tasked with ensuring effective implementation of the POSH Act at the district level and monitoring the functioning of the LCCs under their jurisdiction.

What is the POSH Act of 2013?
- The POSH Act is a piece of legislation implemented by the Government of India in 2013 to address the problem of sexual harassment in the workplace.
- The Act's goal is to ensure a safe and welcoming work environment for women while also protecting them from sexual harassment.
- Sexual harassment is defined under the PoSH Act as unwelcome activities such as physical contact and sexual approaches, a demand or request for sexual favors, making sexually coloured remarks, showing pornography, and any other unwelcome physical, verbal, or nonverbal sexual activity.

Background of the POSH Act 2013
- The Supreme Court issued **'Vishakha guidelines'** in a landmark decision in the Vishakha and others v State of Rajasthan case in 1997.
- The **Sexual Harassment of Women at Workplace (Prevention, Prohibition, and Redressal) Act of 2013** was based on these standards.
- The Supreme Court also drew strength from several Constitutional provisions, including **Article 15** (against discrimination based solely on religion, race, caste, gender, or place of birth), as well as relevant International Conventions and norms, such as the General Recommendations of the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW), which India ratified in 1993.
- The PoSH Bill was introduced in 2007 by the Ministry of Women and Child Development. It was amended multiple times before becoming law on December 9, 2013, after being adopted by Parliament.

Key Provisions of the POSH Act of 2013

Features	Details

Purpose	· Provide protection against sexual harassment of women at the workplace and for the prevention and redressal of complaints.
Definition of Sexual Harassment	· Includes unwelcome acts or behavior like physical contact, advances, demand for sexual favors, sexually colored remarks, showing pornography, and other unwelcome physical, verbal, or non-verbal conduct of a sexual nature.
Coverage	· Covers both organized and unorganized sectors in India. Applicable to every workplace, public or private.
Internal Complaints Committee (ICC)	· Employers of workplaces with 10 or more employees must set up an ICC for receiving complaints of sexual harassment.
Local Complaints Committee (LCC)	· For workplaces with fewer than 10 employees and cases where the complaint is against the employer. District officer constitutes the LCC.
Employer's Duties	· Organize workshops and awareness programs, create a safe working environment, display penal consequences of harassment, etc.
Redressal Mechanism	· Employees can lodge a complaint with ICC or LCC. The committee completes its inquiry within a specified time frame and recommends action.
Protection Against Retaliation	· Safeguards for the complainant and witnesses against retaliation or victimization.
Penalties	· Penalties for employers failing to comply. Repeated violations lead to higher penalties and possible cancellation of license or registration.
Confidentiality	· Emphasizes maintaining confidentiality during the inquiry process. · Prohibits revealing contents of the complaint, identities of involved parties, and any information related to the conciliation and inquiry proceedings to the public.

Conclusion

The Supreme Court has issued an order directing the Principal Secretaries of the Women and Child Ministries in various states to appoint a district officer in each district within four weeks from the date of the judgment.

UPSC Previous Year Practice Question
Case Study: (2013)

You are the Executive Director of an upcoming InfoTech Company which is making a name for itself in the market.

Mr. A, who is a star performer, is heading the marketing team. In a short period of one year, he has helped in doubling the revenues as well as creating a high brand equity for the Company so much so that you are thinking of promoting him. However, you have been receiving information from many corners about his attitude towards the female colleagues; particularly his habit of making loose comments on women. In addition, he regularly sends indecent SMSs to all the team members including his female colleagues.

One day, late in the evening, Mrs. X, who is one of Mr. A's team members, comes to you visibly disturbed. She complains against the continued misconduct of Mr. A, who has been making undesirable advances towards her and has even tried to touch her inappropriately in his cabin. She tenders her resignation and leaves your office.

1. What are the options available to you?
2. Evaluate each of these options and choose the option you would adopt, giving reasons.

History, Art and Culture (GS Paper Prelims) & GS Paper I(Main)

Kozhikode, Gwalior Added To UNESCO Creative Cities List

Priority: Medium

Primary Source: The Hindu

Relevance: Indian Heritage and Culture, Important International institutions, agencies and fora- their structure, mandate.

Prepp Prelims Booster: UNESCO, Creative Cities List

Prepp Mains Booster: UNESCO

Why in the news?

- Recently, UNESCO announced the addition of Kozhikode and Gwalior to the UNESCO Creative Cities Network on October 31st, World Cities Day.
- Kozhikode has been designated the City of Literature and Gwalior as the City of Music.
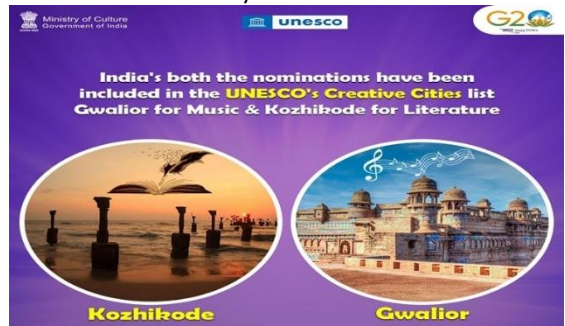
Which Indian cities have been added to the UNESCO Creative Cities List?

- **Kozhikode in Kerala** and **Gwalior in Madhya Pradesh** have been added to the **UNESCO Creative Cities List in 2023** in recognition of their commitment to harnessing culture and creativity.
- **Kozhikode:** It has been recognized in the **Literature category** as the **City of Literature.**

- o Kozhikode is a permanent venue for the annual Kerala Literature Festival and hosts several other book festivals throughout the year.
- o The city is also home to **over 500 libraries.**
- o The city has been a historically important port for spices since the medieval period and is renowned for its famous **Malabar cuisine**.
- o The city is also home to beaches and other natural and cultural wealth.
- **Gwalior:** The city has been honored in the **Music category** as the **City of Music**.
- o Gwalior has a rich and diverse musical heritage spanning disciplines such as **classical Hindustani music, folk music, and devotional music.**
- o It is home to the **Gwalior Gharana** and is associated with famous Indian musicians such as **Tansen** and **Baiju Bawra**.
- o It also hosts prestigious music institutes and music festivals and was significant in the **Indian Guru-Shishsya tradition** in Indian classical music.
- o Gwalior is also historically significant with architectural marvels such as palaces and temples.

UNESCO Creative Cities Network

- The **Creative Cities Network** was launched by UNESCO in 2004 with the aim of fostering international cooperation with and between cities.
- UNESCO provides coordination and support which enhances the cultural identity, economy, and international visibility of member cities.
- Cities apply to join the Network and are designated by UNESCO based on criteria related to creativity
- **Objective:** It aims to **drive sustainable urban development, social inclusion, and cultural vibrancy by committing to investments in creativity.**
- **Categories:**
- o **Crafts and Folk Art:** Recognizing traditional craftsmanship and indigenous artistic heritage.
- o **Design:** Promoting design innovation, urban planning, and sustainable development.
- o **Film:** Celebrating cinematic excellence, cultural diversity, and storytelling through the medium of film.
- o **Gastronomy:** Highlighting culinary traditions, food heritage, and sustainable gastronomic practices.
- o **Literature:** Fostering literary exchange, promoting reading culture, and nurturing linguistic diversity.
- o **Media Arts:** Embracing digital creativity, multimedia innovation, and technological advancement in arts.
- o **Music:** Celebrating musical diversity, cultural heritage, and promoting music education and performance.

- **Commitments of member countries:** Share best practices and develop partnerships between public and private sectors and civil society to:
- o Strengthen the creation, production, distribution, and dissemination of cultural activities, goods, and services
- o Develop innovation hubs for creators and professionals in the cultural sector
- o Improve access to and participation of marginalized or vulnerable groups and individuals in cultural life
- o Integrate culture and creativity in plans for sustainable development.
- **Other Indian cities in the list:**

City	Category	Year
Jaipur	Crafts and Folk Arts	2015
Varanasi	Music	2015
Chennai	Music	2017
Mumbai	Film	2019
Hyderabad	Gastronomy	2019
Srinagar	Crafts and Folk Arts	2022

World Cities Day

- The United Nations General Assembly has designated the 31st of October as World Cities Day.
- **Theme of World Cities Day 2023: Financing sustainable urban future for all**
- o It aims to unlock transformative investment in urban planning and achieve adequate fiscal decentralization
- The **host city for World Cities Day 2023 event** is the Municipality of **Uskudar in Istanbul, Turkiye.**
- **Significance:** It aims to raise awareness about the challenges associated with urbanization including social, economic, demographic, and environmental challenges.

UNESCO

- The **United Nations Educational, Scientific and Cultural Organization (UNESCO)** is a specialized agency of the United Nations that was established with the aim of promoting world peace and security through international cooperation in education, arts, sciences, and culture.
- It was founded in 1945 and succeeded the **International Committee on Intellectual Cooperation** under the **League of Nations.**
- **Membership:** 193 member states and 11 associate members
- o **India is a founder member of UNESCO.**
- **Headquarters:** World Heritage Centre in Paris
- **Mission:** Advance peace, sustainable development, and human rights by facilitating collaboration and dialogue among nations through five major program areas:
- o Education
- o Natural sciences

- o Social/human sciences
- o Culture
- o Communication/information
- **Conventions and treaties of UNESCO:**
- o The **Convention on the Means of Prohibiting and Preventing the Illicit Traffic of Cultural Property (1970)**
- o The **Convention for the Protection of the World Cultural and Natural Heritage (1972)**
- o The **Universal Declaration on Cultural Diversity (2001)**
- o The **Convention on the Protection of the Underwater Cultural Heritage (2001)**
- o The **Convention for the Safeguarding of the Intangible Cultural Heritage (2003)**
- o The **Convention on the Protection and Promotion of the Diversity of Cultural Expressions (2005)**
- **Major initiatives:**
- o **World Heritage Convention and List:** It is a list of World Heritage Site which are landmarks or areas with legal protection. They have geographical, historical, cultural, or physical significance
- o **Man and the Biosphere (MAB) Programme:** It is an intergovernmental scientific programme that aims to establish a scientific basis for enhancing the relationship between people and their environments.
- o **Lists of Intangible Cultural Heritage:** It aims to ensure better protection of important intangible cultural heritages worldwide and the awareness of their significance.
- o **Memory of the World Programme:** It is an international initiative to safeguard the documentary heritage of humanity against collective amnesia, neglect, the ravages of time and climatic conditions, and willful and deliberate destruction.
- o **World Water Assessment Programme:** It was founded in 2000 to produce a UN system-wide periodic global overview of the status, use, and management of freshwater resources
- **Reports:**
- o **UNESCO Science Report:** It is published every five years to mark science, technology and innovation governance.
- o **Global Education Monitoring Report:** It assesses progress on SDG4, its targets, and other targets related to education.
- o **UNESCO State of the Education Report for India: Children With Disabilities:** The first edition of the annual report was released in 2019. It highlights accomplishments and challenges regarding the right to education of children with disabilities.

UPSC Mains Practice Questions
Q.1) What are the aims and objectives of the McBride Commission of the UNESCO? What is India's position on these? **(UPSC GS2 2016)**
Q.2) 'Too little cash, too much politics, leaves UNESCO fighting for life.' Discuss the statement in the light of US'

withdrawal and its accusation of the cultural body as being 'anti-Israel bias'. **(UPSC GS2 2019)**

MCQs
Question: Recently, the manuscripts of which one of the following have been included in UNESCO's Memory of World Register? (UPSC 2008)
a. Abhidhamma Pitaka
b. Mahabharata
c. Ramayana
d. Rig-Veda
Answer: (d)

Question: Consider the following sites /monuments: (UPSC 2005)
1. Champaner-Pavagadh Archaeological Park
2. Chhatrapati Shivaji Railway Station, Mumbai
3. Mahallapuram
4. Sun Temple (Konark Temple)
Which of the above is/are included in the World Heritage List of UNESCO?
(a) 1, 2 and 3
(b) 1, 3 and 4
(c) 2 and 4
(d) 1, 2, 3 and 4
Answer: (d)

Indian Society(GS Paper Prelims) & GS Paper I (Main)
Gender Disparity in Global Workforce and Leadership Positions
Priority: Medium
Primary Source: The Hindu
Relevance: Salient features of Indian Society; Role of Women; Issues relating to development and management of Social Sector/Services;
Prepp Prelims Booster: Global Gender Gap
Prepp Mains Booster: Issues Related To Gender Disparity
Context
- The *17th edition of the Global Gender Gap Report, released by the World Economic Forum* on June 20, 2023, analyzed data from 146 countries and found that at the current rate of progress, **it will take 131 years to close the global gender gap.** In the **case of populous South Asian countries, including India, this gap is estimated to take 149 years to close.**

Gender Disparity in Global Workforce and Leadership Positions
- Women's representation in the **global workforce is around 41.9%,** but they only account for 32.2% of senior leadership positions.
- Industries like consumer services, retail, and education exhibit better gender representation in leadership positions between 64% and 68%.

- Industries like construction, financial services, and real estate show lower representation (less than 50%) of women in C-suite roles.
- **In terms of political representation,** there has been progress since 2013, with the percentage of women parliamentarians rising to 22.9% globally.
  o Some countries, like Iceland and Costa Rica, have achieved more than 33 per cent representation, while others, including Canada and Japan, lag behind with less than one-third of their parliamentarians being women.

The Women's Reservation Bill in India

- In September 2023, the **new Indian Parliament building marked the commencement of parliamentary proceedings and a significant moment for Indian citizens with the passage of the Women's Reservation Bill,** also known as the Constitution (One Hundred Twenty-Eighth Amendment) Bill, 2023.
- This legislation, after considerable delays, was overwhelmingly approved by both Houses, signifying a groundbreaking event in independent India.
- Despite India's early adoption of universal adult suffrage, the role of women in shaping the country's political future has remained limited.

Challenges of Young Women in Politics

- Globally, **there is a trend of young political leaders emerging.** However, it raises the question of whether an ordinary Indian woman, solely through her commitment and ambition, can aspire to become the Prime Minister of India at a young age, akin to Jacinda Ardern, the former Prime Minister of New Zealand.
- Throughout the world, women have traditionally been appreciated in supportive and emotional roles rather than leadership positions. Ambitious women often face societal resistance and denigration.
- **For example:** the case of Hillary Clinton, whose political experience and competence were considered superior to Donald Trump's. However, America, the world's so-called top democracy, chose an inexperienced Mr. Trump over her to lead them.

Challenges in Achieving Gender Parity in Leadership Roles

- **Privileges and Education:** Historical evidence suggests that most women in leadership positions didn't get there solely based on their hard work, competence, or intelligence, but many women in leadership roles had certain privileges, such as access to higher education, support from influential mentors or families, or belonging to higher social classes or castes.
  o If there was a survey for this, it would likely show that nearly all female legislators had university education, while this percentage would be much lower among male legislators.
- **Delayed Leadership Entry:** Despite privileges, women often face delays in assuming leadership roles. Indira Gandhi did not immediately become Prime Minister upon Jawaharlal Nehru's death in 1964; she had to wait

until 1966, following Lal Bahadur Shastri's passing, to assume the role of Prime Minister.
  o **In contrast,** Rajiv Gandhi, as her son, quickly assumed a leadership role following her assassination. This raises questions about whether non-privileged Indian women can attain top leadership positions promptly.
- **Lack of Empathy:** The privileged women who reach leadership positions may not always empathize with the struggles of less fortunate women who lack basic needs like nutrition, education, and financial independence. These privileged women may underestimate the advantages they have enjoyed in their journey to leadership.
- **Regressive Views on Gender Equality:** The major obstacle lies in regressive views on gender equality, even among otherwise progressive individuals like C. Rajagopalachari, who opposed Radhabai Subbarayan's bid for a general seat.
  o Mulayam Singh's 2010 accusation, dismissing the women's reservation Bill as favoring educated, urban, and elite women, overlooked the Bill's aim of creating opportunities for less privileged women.
  o Political analysts believed that opposition from Mulayam Singh and Lalu Prasad Yadav was rooted in protecting men's dominance in elections within a patriarchal society.

What does Claudia Goldin's research reveal?
Gender gaps

- Claudia Goldin's work on labor markets reveals that the **market is not gender-neutral** but that there is an intricate level of gender discrimination that disadvantages women.
- Using U.S. data, she revealed that such disparities persisted even when women possessed equivalent qualifications to men.

U-shaped relationship

- She suggested that there is a **U-shaped relationship between economic development and women's labor force participation.**
- Higher female labor force participation is visible in low levels of economic development due to women's engagement in agriculture as unpaid family workers.
- **Income effect:** With the increase in income and industrialization, women are found to withdraw from paid work, despite their work hours remaining constant.
- The income effect was found to recede as women became more educated and returned to paid employment.

Gender Wage Gap Among College-Educated Women

- She examined the gender wage gap among college-educated US women over a century in her 2021 book "Gender Wage Gap Among College-Educated Women".

- **Since the 2000s, the wage gap between college-educated men and women has stagnated.**
- Although, in earlier decades, men earned more because they were better educated, today women are more likely to have a college degree than men.

What factors of the Gender pay gap did Goldin identify?

Occupational segregation:
- Women were typically found to work in **stereotypical "female" jobs** that offered lower pay.
- She introduced the concept of **"greedy jobs" i.e. jobs that offered higher wage premiums but required longer working hours, networking, late-night meetings, and traveling.**
- In a family with two working parents, only one can afford the demands of such a role, and the other parent, usually the mother, would have to assume less demanding work in order to handle childcare, which she called the **"mommy track."**
- This resulted in exacerbating the wage gap.

Childbirth:
- The gender pay gap was relatively small when men and women worked in factories with pay tied to daily output but **widened when monthly pay contracts became common.**
- After having children, women often faced slower career advancement and lower earnings compared to men with the same education and profession.

Choice and agency:
- Women's professional lives can be significantly influenced by their choices as indicated by her research on blind auditions for female musicians and the impact of oral contraceptives on women's careers.
- She found that **hiring and advancement of women increased when blind auditions** were conducted in the orchestra.
- She also claimed that the **availability of the contraceptive pill enabled them to have greater control over their career and pregnancies**.

India's Performance in Global Gender Gap Report, 2023
- India has made some progress in terms of gender parity. It has moved up eight positions compared to the previous year and is **now ranked 127th out of 146 countries.** In the 2022 edition, India was ranked 135th.
  - India has improved by 1.4 percentage points and eight positions since the last edition, marking a partial recovery towards its 2020 parity level.
  - India has achieved parity in enrolment across all levels of education, which is a positive development.
  - India has closed 64.3% of the overall gender gap.
  - However, when it comes to economic participation and opportunity, India still lags behind, with only 36.7% parity in this area.
- In comparison to its neighboring countries, India ranks higher than Pakistan (142), but lags behind Nepal (116),

Sri Lanka (115), Bhutan (103), Bangladesh (59) and China (107).
- The **most gender-equal country in the world is Iceland.** Iceland has held this position for 14 consecutive years and has managed to close more than 90% of its gender gap.

Gender Parity of Southern Asian Region
- The Southern Asian region has achieved a gender parity of 63.4%, which is the second-lowest among the eight regions.
- However, there has been a slight improvement of 1.1 percentage points in the South Asian score since the last edition.
- This improvement can be partially attributed to the increased scores of populous countries such as India, Pakistan, and Bangladesh.

Indian Initiatives to reduce Gender Gap
- **Beti Bachao Beti Padhao:** It ensures the protection, survival and education of the girl child.
- **Mahila Shakti Kendra:** It aims to empower rural women with opportunities for skill development and employment.
- **Mahila Police Volunteers:** It envisages engagement of Mahila Police Volunteers in States/UTs who act as a link between police and community and facilitates women in distress.
- **Rashtriya Mahila Kosh:** It is an apex microfinance organization that provides micro-credit at concessional terms to poor women for various livelihood and income generating activities.
- **Sukanya Samriddhi Yojna:** Under this scheme girls have been economically empowered by opening their bank accounts.
- **Female Entrepreneurship:** To promote female entrepreneurship, the Government has initiated Programmes like Stand-Up India and Mahila e-Haat (online marketing platform to support women entrepreneurs/ SHGs/NGOs), Entrepreneurship and Skill Development Programme (ESSDP).
- **Kasturba Gandhi Balika Vidyalaya:** They have been opened in Educationally Backward Blocks (EBBs).
- **Political Reservation:**
  - The government has reserved 33% of the seats in Panchayati Raj Institutions for women.
  - Recently, the Women's Reservation Bill was passed which proposes to reserve 33% of seats in the Lok Sabha and State Legislative Assemblies for women.

What is the way ahead?
- **Implementation of Legislation:** Swift implementation of policies and legislation, such as the Women's Reservation Bill in the Indian context, is crucial. These legal frameworks can provide a formal structure for promoting women's participation in leadership roles.
- **Education and Skill Development:** The focus should be on providing quality education and skill-building opportunities for women to enhance their competence

and capabilities. This can help women qualify for leadership positions on an equal footing.

- **Awareness and Advocacy:** Increase awareness and advocacy for gender equality, challenging regressive views and biases that hinder progress. Public campaigns and educational initiatives can play a significant role in changing societal attitudes.
- **Empowerment Programs:** Develop empowerment programs and initiatives aimed at less privileged women who lack access to basic needs, ensuring that they have the resources and support to pursue leadership roles.
- **Data and Research:** Continuously collect and analyze data on gender disparities and the effectiveness of policies and initiatives. Data-driven decision-making can guide efforts to close the gender gap.
- **International Collaboration:** Collaboration should be made on a global scale to share best practices and learn from other countries' experiences in promoting gender equality.
- **Continuous Evaluation:** Regularly assess the progress made in reducing the gender gap and make necessary adjustments to policies and strategies based on the evolving landscape.

Current Scenario of Women's Representation in Parliament

- As of 2023, the Lok Sabha (lower house) has less than 15% women members, and this gender disparity is more pronounced in some state assemblies where women's representation falls below 10%.
- The total count of women parliamentarians as of 2023 is 102, with 78 in the Lok Sabha out of 542 members and 24 in the Rajya Sabha out of 224 members.
- After the last national election, only around 13% of India's 788 MPs were women, which ranked India 110th in the world for women's representation in parliament.

International Comparison and Progress

- Despite women comprising over 48% of India's population, their representation in parliament stood at 15.1% which is below the international average of 24%5.
- There has been a slow but steady increase in the representation of women, moving from 5% in the 1st Lok Sabha to 14% in the 17th Lok Sabha.
- The passing of the Women's Reservation Bill has propelled India to have the 5th highest representation of women in parliament globally as of October 2023, with the representation rate jumping to 48.3%

Performance of Women in Parliament

- The key findings based on the data from 15th Lok Sabha (2009-2014) and 16th Lok Sabha (2014-2019) are:
- In the 15th Lok Sabha, women MPs asked fewer questions than male MPs (135 vs 250).
- In the 16th Lok Sabha, women MPs' level of questioning was comparable to male MPs (218 vs 219).
- Women MPs focus on different issues than male MPs, including healthcare, education, roads, and MSMEs,

while male MPs focus more on finance, defense, and external affairs.

Importance of Political Empowerment of Women

- **Reflecting Diversity:** To have a true representative democracy, the diversity of the population should be mirrored in decision-making bodies.
- **Breaking Stereotypes:** Women in political roles can challenge societal norms and gender stereotypes, paving the way for greater gender equality.
- **Holistic Policies:** Women politicians tend to focus more on social welfare, health, and education. Their involvement ensures a more comprehensive approach to development.
- **Collaborative Approach:** Women often employ a more collaborative and inclusive
- **Upholding Global Standards:** Many international conventions and commitments emphasize the importance of women's political participation. Empowering women politically helps nations uphold these standards.

Constitutional Provisions Related to Women's Rights and Their Representation

- **Article 14:** Guarantees "equality before the law" and "equal protection of the laws" to all persons, including women.
- **Article 15(1):** Prohibits discrimination against any citizen on the grounds of religion, race, caste, sex, or place of birth.
- **Article 15(3):** Allows the state to make special provisions for women and children, thereby enabling affirmative action in favor of women.
- **Article 16:** Ensures equality of opportunity for all citizens in matters of employment or appointment to any office under the State. This includes public offices where political representation matters.
- **Article 39(a) & (d):** Mandates that the State shall direct its policy towards ensuring that men and women have the right to an adequate means of livelihood and equal pay for equal work, respectively.
- **Article 243D:** Provides reservation of seats in the local bodies of Panchayats and Municipalities for women, ensuring women representation in local governance. This has led to a significant number of women entering the political space at the grassroots level.
- **73rd and 74th Constitutional Amendment Acts (1992):** These were significant amendments that provided for reservation of one-third of seats at the local government level (Panchayats and Municipalities) for women.

Reasons for Low Representation of Women in Parliament

- **Traditional Mindset:** India's largely patriarchal society often perceives politics as a male domain. This mindset can discourage women from entering politics or being taken seriously when they do.

- **Gender Roles:** Predefined gender roles, which expect women to prioritize domestic responsibilities, can act as barriers for women to actively participate in politics.
- **Ticket Allocation:** Political parties often hesitate to give election tickets to women, doubting their ability to win, especially in constituencies where the competition is tough.
- **Internal Party Dynamics:** Women often face discrimination within political parties themselves, with fewer opportunities to rise to prominent positions.
- **Safety Concerns:** The threat of violence, harassment, or character assassination during election campaigns can deter women from participating in politics.
- **Discouragement:** Even if women choose to participate, they might face discouragement from family members who fear for their safety.
- **Campaign Financing:** Elections require significant financial resources for campaigns, and women often have less access to such resources.
- **Economic Dependence:** Economic dependence on male family members can also curtail women's ability to make independent political decisions.
- **Education:** Lower literacy and education rates among women compared to men can be a factor, as education often correlates with political awareness and participation.
- **Mobility:** In many parts of India, women's mobility is restricted, limiting their ability to campaign effectively.
- **Media Portrayal:** The media, at times, can focus more on the personal lives of women politicians or their appearance, rather than their political stance or achievements, which undermines their credibility.
- **Absence of Strong Legal Provisions:** Though there are reservations for women at local governance levels (Panchayats and Municipalities), similar provisions at state or central legislative levels are absent. The Women's Reservation Bill, which proposes to reserve 33% of all seats for women in the Lok Sabha and state legislative assemblies, has not been passed.

Role of MPs

- MPs represent their constituents' interests and ensure government accountability.
- It is crucial for MPs to question the government, irrespective of political affiliation or gender.
- MPs can introduce bills in Parliament. These bills, when passed, become acts/laws.
- MPs play a crucial role in the process of amending the Constitution. A majority of not less than two-thirds of the members of each House present and voting is required for an amendment to pass.
- MPs play a significant role in highlighting issues of national and international importance in Parliament.
- MPs engage in debates and discussions on various issues, helping shape public opinion and policy direction.

Government Initiatives

- A significant step towards increasing women's representation was taken with the introduction of the Constitution (One Hundred and Twenty-Eighth Amendment) Bill, 2023, which aimed to reserve one-third of the seats in the Parliament for women.
- This was followed by the passing of the Women's Reservation Bill, 2023, on 21 September, ensuring that women would occupy at least 33% of the seats in the state legislatures.
- The legislation, also referred to as the Constitution (One Hundred and Sixth Amendment) Act, 2023, aimed at allocating 33% of the seats in the Lok Sabha and state legislative assemblies for women.
- This bill was passed by the Lok Sabha and the Rajya Sabha and signed by the President on 28 September 2023, with its implementation planned after the 2024 Lok Sabha elections following a new census and delimitation exercise.

Policies Benefitting Women

- Increase in accessibility to LPG cooking fuel has improved women's health.
- Enhanced toilet accessibility improves women's health and safety.
- Majority beneficiaries of the Pradhan Mantri Jan Dhan Yojana are women.
- Houses under PM Awas Yojana are primarily owned by women heads of families.
- **Mahila e-Haat** is an online marketing platform for women entrepreneurs to showcase their products, directly reaching out to buyers without any intermediaries.

Conclusion

Women MPs' contribution in the Parliament has seen a notable increase, particularly in questioning the government. The future looks promising for India with increasing women-led democracy, especially with initiatives like the women's reservation bill.

Previous Year Mains Question

Q. Though women in post-independent India have excelled in various fields, the social attitude towards women and the feminist movement has been patriarchal." Apart from women's education and women empowerment schemes, what interventions can help change this milieu? (UPSC GS2 2021)

Q. What are the continued challenges for Women in India against time and space? **(UPSC GS1 2019)**

Q. Discuss the desirability of greater representation to women in the higher judiciary to ensure diversity, equity and inclusiveness. **(UPSC GS2 2021)**

Q. "Empowering women is the key to controlling population growth". Discuss. (UPSC GS1 2019)

Q. What are the continued challenges for women in India against time and space? (UPSC GS1 2019)

Q. Discuss the positive and negative effects of globalization on women in India. (UPSC GS1 2015)

Q. Demographic Dividend in India will remain only theoretical unless our manpower becomes more educated, aware, skilled, and creative." What measures have been taken by the government to enhance the capacity of our population to be more productive and employable? (UPSC GS2 2016)

MCQ

Question: Which of the following gives 'Global Gender Gap Index' ranking to the countries of the world? **(UPSC 2017)**

a.   World Economic Forum
b.   UN Human Rights Council
c.   UN Women
d.   World Health Organization

Answer: (a)

Question: Inclusive growth as enunciated in the Eleventh Five Year Plan does not include one of the following: (UPSC CSE 2010)

a.   Reduction of poverty
b.   Extension of employment opportunities
c.   Strengthening of capital market
d.   Reduction of gender inequality

Answer: (c)

Question: To obtain the full benefits of demographic dividend, what should India do? (UPSC CSE 2013)

a.   Promoting skill development
b.   Introducing more social security schemes
c.   Reducing infant mortality rate
d.   Privatization of higher education

Answer: (a)

Question: Which of the following gives the 'Global Gender Gap Index' ranking to the countries of the world? (UPSC CSE 2017)

a.   World Economic Forum
b.   UN Human Rights Council
c.   UN Women
d.   World Health Organization

Answer: (a)

Geography (GS Paper Prelims) & GS Paper I(Main)

Ancient Landscape Cut by Rivers Found Deep Under Antarctic Ice

Priority: Low
Primary Source: The Hindu

Relevance: Salient features of World's Physical Geography, Geographical features and their location, Changes in critical geographical features (including water-bodies and ice-caps)
Prepp Prelims Booster: Wilkes Land Region
Prepp Mains Booster: Exploration of Antarctica

Why in the news?

• Recently, Scientists have discovered a vast **ancient landscape beneath the Antarctic ice,** suggesting that the continent was once home to rivers and forests.

• Using satellite observations and ice-penetrating radar, this landscape, found in **East Antarctica's Wilkes Land region**, appears to be from a period ranging from 14 million to over 34 million years ago.
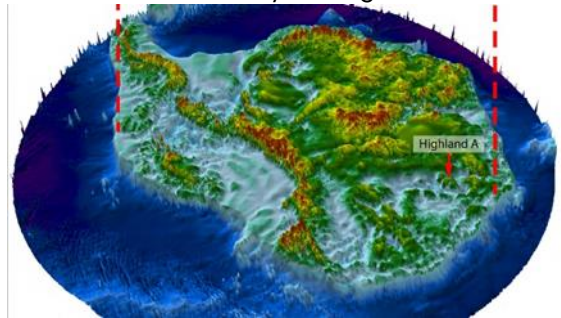
(An illustration of the ancient landscape found under Antarctic Ice)

Formation of Antarctica

• Around 300 million years ago, Earth's landmasses were joined together in a supercontinent known as Pangaea.

• About 200 million years ago, Pangaea began to break apart due to tectonic forces. This breakup led to the formation of two smaller supercontinents: Laurasia in the northern hemisphere and Gondwana in the southern hemisphere. Antarctica was part of Gondwana.

• Starting around 180 million years ago, Gondwana began to break apart. The landmasses that are now Africa, South America, Antarctica, Australia, the Indian subcontinent, and the Arabian Peninsula started to separate and drift to their current positions.

• Around 40 million years ago, Antarctica separated from South America, creating the Drake Passage.

• The formation of this passage allowed the Circumpolar Current to develop, which circulates around Antarctica and played a significant role in its cooling.

• Roughly 34 million years ago, during the Eocene-Oligocene transition, there was a significant drop in CO_2 levels which, combined with the effects of the Circumpolar Current, led to the formation of large ice sheets on Antarctica.

• This marked the transition from a relatively warm Antarctica with forests and diverse life, to a frozen continent.

- Over the past few million years, multiple ice ages further influenced the extent of the ice sheets on Antarctica, shaping its current icy landscape.

Location and Size of the Landscape
- The ancient landscape discovered beneath the Antarctic ice is located in East Antarctica's Wilkes Land region, which borders the Indian Ocean.
- The size of this landscape covers an area roughly equivalent to Belgium or the U.S. state of Maryland.

Historical Significance of the Landscape
- **Evidence of a Warmer Antarctica:** The discovery provides concrete evidence that Antarctica was not always a frozen continent. The existence of valleys and ridges shaped by rivers, along with the mention of ancient palm tree pollen found nearby, suggests that this region once experienced warmer climates, possibly ranging from conditions similar to today's Patagonia to even more tropical climates.
- **Insight into Geological Timescales:** The landscape is believed to date from at least 14 million years ago and could extend beyond 34 million years ago. This timeline provides insights into the major climatic and geological transitions Antarctica underwent, from a time when it supported rivers and forests to its eventual deep freeze.
- **Understanding Earth's Geographical Evolution:** Antarctica was once part of the Gondwana supercontinent, which also included present-day regions such as Africa, South America, Australia, the Indian subcontinent, and the Arabian Peninsula. Over time, through the process of plate tectonics, Antarctica split off and became isolated. The ancient landscape, with its rivers flowing toward a continental coastline, offers glimpses into the continent's topography and hydrology during these transitional phases.
- **Indications of Past Life:** While the region's fossil record is currently too incomplete to precisely indicate which animals might have inhabited it, the warmer conditions suggest that it would have supported a diverse range of wildlife.

Features of the Ancient Landscape
- **Valleys and Ridges:** The landscape consists of valleys and ridges. These formations were apparently shaped by rivers before the region was engulfed by glaciation.
- **Size and Location:** The landscape is situated in East Antarctica's Wilkes Land region, bordering the Indian Ocean. It covers an area roughly the size of Belgium or the U.S. state of Maryland.
- **Age:** The researchers believe the landscape dates back to at least 14 million years ago and might extend beyond 34 million years ago, a period before Antarctica entered its deep freeze phase.
- **Ice Thickness:** The ice sheet covering this ancient landscape is about 2.2 to 3 km thick.
- **Modification by Various Processes:** The landscape has been influenced and modified by different processes

over a vast geological timeframe, including the actions of rivers, tectonic movements, and glaciation.
- **Evidence of Warmer Climates:** Clues like ancient palm tree pollen found in the vicinity support this claim. Depending on how far back in time one goes, the climate of this region might have varied from conditions resembling present-day Patagonia to possibly something more tropical.
- **Possible Wildlife and Flora:** While the exact details of the wildlife and flora that might have existed there are not known due to an incomplete fossil record, the warmer conditions of the past indicate that this area likely supported diverse life forms.
- **Preservation Under Ice:** The landscape has remained preserved beneath the ice for potentially up to 34 million years. It acts as a snapshot of the past, capturing a time before the vast ice sheets formed and covered the entire continent.

Research Methodologies Used
- **Satellite Observations:** The researchers employed satellite observations of the ice surface. In some places, the contours of the ice surface mimicked the buried landscape underneath, providing indications of the landforms below.
- **Ice-Penetrating Radar:** Ice-penetrating radar data was collected from a plane flying over the site. This radar can penetrate the ice and provide data about the structures and topography beneath it.

Future Explorations Planned
Drilling Through the Ice
- The researchers have mentioned the potential to drill through the ice to obtain core samples of sediments below the surface.
- This process could help in revealing evidence about the ancient flora and fauna that once existed in the region.
- Drilling and obtaining core samples could be analogous to previous studies conducted in places like Greenland where samples dated back 2 million years.

Detailed Study of the Landscape
- While the current discovery provides a broad overview, there is potential for more in-depth studies to further explore and map the intricacies of the ancient landscape.
- This could include a more detailed understanding of its geology, hydrology, and possible past ecosystems.

Comparison with Other Discoveries
- Some previous studies have revealed ancient landscapes beneath Antarctica's ice, including mountains and highlands.
- The researchers might undertake comparative studies between this new discovery and previous ones to better understand the geological evolution of Antarctica.

Conclusion
Ancient landscape discovered provides significant insights into Antarctica's history before its deep freeze. This preserved landscape has been under ice for likely 34 million

years. Further research and drilling could unlock more secrets of the continent's ancient past.

MCQs

Q. The formation of the Ozone hole in the Antarctic region has been a cause of concern. What could be the reason for the formation of this hole? (UPSC 2011)

(a) Presence of prominent tropospheric turbulence; and inflow of chlorofluorocarbons

(b) Presence of prominent polar front and stratospheric clouds; and inflow of chlorofluorocarbons

(c) Absence of polar front and stratospheric clouds; and inflow of methane and chlorofluorocarbons.

(d) Increased temperature at polar region due to global warming

Answer: (b)

Climate Change Is Causing More Frequent, Intense Cyclones On India's Western Coast

Priority: High

Primary Source: Indian Express

Relevance: Geographical Features and their Location; Important Geophysical Phenomena; Climate Change

Prepp Prelims Booster: Cyclones, Arabian Sea

Prepp Mains Booster: Occurrence of Cylones in the Indian Ocean and Associated Factors

Why in the news?

- According to a new study, **changes in ocean and atmosphere warming are causing more frequent and severe tropical cyclones in the Eastern Arabian Sea, near India's west coast.**
- This research is part of the **"Forecasting with Fishers" project, led by the Advanced Centre for Atmospheric Radar Research at Cochin University of Science and Technology (CUSAT).**

What are Cyclones?

- **Cyclones are a type of low-pressure environment with rapid inward air circulation.**
- It is a type of tropical weather system characterized by strong winds and heavy rainfall.
- It can also cause storm surges, which are large waves that can inundate low-lying areas and cause flooding.
- **Formation:** An area of low pressure is formed when warm and moist air rises up and away from the ocean surface.
  - Air from surrounding areas with higher pressure then moves towards the low-pressure area.
  - In a continuous cycle, this cool air becomes warm and moist and rises up.
  - The warm moist air which rises up, cools the water in the air and results in the formation of clouds.
  - This whole system of clouds and winds spins and grows and the cycle results in a cyclone.
  - This process is known as **cyclogenesis.**

Findings of the Study

- **Changing Cyclone Patterns:** Traditionally, tropical cyclones in the Arabian Sea occurred at the start of the southwestern monsoon season (March-June) and after the season (October-December). However, in 2019, the Arabian Sea experienced five cyclones, exceeding the usual count of three, particularly during a positive phase of the Indian Ocean dipole (IOD).
- **Impact of Indian Ocean Dipole (IOD):** The IOD, similar to El Nino, involves one part of the ocean becoming warmer than the other. During its positive phase, sea surface temperatures in the western Indian Ocean region increase, leading to more precipitation and rain in the eastern Indian Ocean.
- **Human-Caused Climate Change:** The recent increase in the frequency of extremely severe cyclonic storms is primarily due to human-caused climate change rather than natural variability, indicating that climate change is intensifying and increasing cyclone frequency.
- **Impacts on Western India:** As cyclone intensity increases, western India's coastlines, from Gujarat to Thiruvananthapuram, face growing risks, including high winds, storm surges, heavy rainfall, and more.
- **Coastal Communities Concerns:** Cyclones present a serious danger to both human life and the economy due to their strong winds, heavy rainfall, and storm surges, which can result in loss of life and extensive damage to crops, livestock, and fisheries, resulting in significant economic losses.

Arabian Sea

- The **Arabian Sea** is an area of the **northern Indian Ocean** bounded on the **north by Pakistan, Iran, and the Gulf of Oman, on the west by the Gulf of Aden, the Guardafui Channel, and the Arabian Peninsula, on**

the southeast by the Laccadive Sea, the Somali Sea, and on the east by India.

- The **Gulf of Aden connects the Arabian Sea to the Red Sea via the Bab-el-Mandeb strait in the west,** while the **Gulf of Oman connects the Arabian Sea to the Persian Gulf in the northwest.**

Indian Ocean Dipole (IOD)

- The **Indian Ocean dipole occurs in the Indian Ocean**, and the word dipole denotes two opposing properties: poles of the same material.
- The Indian Ocean Dipole is linked to the Indian Oceanic sides with opposite temperature characteristics.
- The **Indian Ocean Dipole (IOD), also known as the Indian Nino, is a periodic oscillation of sea surface temperatures in which the western Indian Ocean becomes warmer (positive phase) and then colder (negative phase) than the eastern Indian Ocean.**
- This irregular shift of temperature in the Indian Ocean is called Indian Ocean Dipole.
- It is similar to El Nino and La Nina in the Pacific Ocean.

Conclusion

The study calls for changes in development strategies to address the dangers posed by more intense and frequent cyclones. Additionally, it underscores the need to develop new policies and technology initiatives related to storm warnings, impact-based local weather services, and reliable localized weather services.

UPSC Mains Practice Question

Q.1) Tropical cyclones are largely confined to the South China Sea, Bay of Bengal and Gulf of Mexico. Why? (UPSC 2014)

Q.2) The recent cyclone on the east coast of India was called "Phailin". How are tropical cyclones named across the world? (UPSC 2013)

MCQ

Question: Consider the following statements: (UPSC CSE 2020)

1. Jet streams occur in the Northern Hemisphere only.
2. Only some cyclones develop an eye.

3. The temperature inside the eye of a cyclone is nearly 10C lesser than that of the surroundings.

Which of the statements given above is/are correct:

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

Answer: (c)

Four Earthquakes In Nepal Cause Tremors In North India

Priority: High

Primary Source: The Hindu

Relevance: Important Geophysical phenomena such as earthquakes, Tsunami, Volcanic activity, cyclone etc, Disaster and disaster management

Prepp Prelims Booster: Nepal Earthquake

Prepp Mains Booster: Issues Related to Earthquakes and Seismicity

Context

- On October 3rd, **Nepal experienced a series of four earthquakes within an hour, with the strongest registering a magnitude of 6.2.** These seismic events also sent **tremors through parts of northern India, including Delhi-NCR,** according to the National Centre for Seismology (NCS). **In the region of Delhi the magnitude was 3.**

Reasons for Occurrence of the Earthquakes

- The **occurrence of earthquakes in the region is primarily attributed to the tectonic settings of the Himalayas,** which include key geological features such as the Himalayan Frontal Thrust (HFT), Main Boundary Thrust (MBT), and Main Central Thrust (MCT).
- Several local **faults and geological lineaments contribute to seismic activity in the area.**
- The **neighboring states in India that felt the tremors fall under seismic hazard zones V and IV.** These zones indicate a high seismic risk, with zone V being the most susceptible to strong earthquakes.
- The seismic vulnerability of these areas underscores the importance of earthquake preparedness and mitigation measures.

Why is Nepal prone to so many earthquakes?

- **Nepal lies in one of the most active tectonic zones (seismic zones IV and V) of the world,** making the country extremely vulnerable to earthquakes.
  - The **6.2 magnitude earthquake was the strongest in Nepal since the deadly 7.8 magnitude earthquake hit Nepal in April 2015** that had killed more than 8,000 people and injured over 21,000.
- Large tectonic plates make up the crust of the Earth. These land masses, which contain entire continents, are in motion and colliding with one another all the time.
- **Nepal sits on the boundary of two massive tectonic plates: the Indo-Australian and the Asian plates.** It is the collision of these plates that has produced the Himalayan mountains and, with them, the earthquakes.

- **The United Nations Development Programme (UNDP) ranks Nepal 11th on the list of the most vulnerable countries to earthquakes** and Nepal's capital Kathmandu is one of the top cities prone to earthquakes.

What is an Earthquake?

- Earthquakes are **natural geological phenomena that occur when there is a sudden release of energy in the Earth's crust.**
- It is the shaking of the surface of the Earth resulting from a sudden release of energy in the Earth's lithosphere that creates seismic waves.
- Earthquakes can range in size from those that are so weak that they cannot be felt to those violent enough to toss people around and destroy whole cities.
- The **location below the Earth's surface where the earthquake starts is called the hypocenter,** and the **location directly above it on the surface is called the epicenter.**
  - **Epicenter:** The epicenter is the point on the Earth's surface directly above the underground point where an earthquake originates. It is the location where the seismic waves, generated by the release of energy during the earthquake, first reach the Earth's surface.
  - **Hypocenter (or Focus):** The hypocenter, also known as the focus, is the actual point within the Earth where the seismic energy is released during an earthquake. It is underground, and its depth can vary. Earthquakes can have shallow hypocenters, which are closer to the Earth's surface, or deep hypocenters, which are further below the surface.

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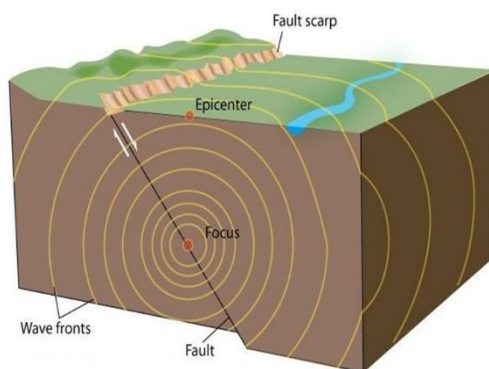
· **Seismic Hazard Map of India**
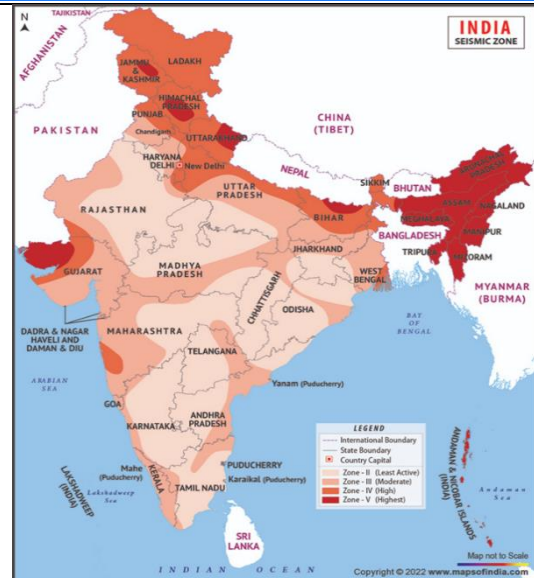
- India is one of the highly earthquake affected countries because of the presence of tectonically active young fold mountains, Himalayas.
- India has been **divided into four seismic zones (II, III, IV, and V)** based on scientific inputs relating to seismicity, earthquakes that occurred in the past and tectonic setup of the region.

Causes of Earthquakes

- **Tectonic Plate Movements:** The most common cause of earthquakes is the movement of tectonic plates that make up the Earth's crust. These plates are constantly in motion due to the heat generated from the Earth's interior.
- **Volcanic Activity:** Earthquakes can also be caused by volcanic activity. When magma moves within the Earth's crust, it can create pressure and fracturing, leading to volcanic earthquakes. These earthquakes often precede or accompany volcanic eruptions.
- **Human Activities:** Human activities, such as mining, reservoir-induced seismicity (due to the filling of large reservoirs), and hydraulic fracturing (fracking), can induce earthquakes. These are known as induced or anthropogenic earthquakes. The injection or extraction of fluids from the Earth's crust can alter subsurface pressure and stress conditions, potentially triggering seismic events.
- **Faults and Fault Zones:** Faults are fractures in the Earth's crust along which movement has occurred. Stress can accumulate along these fault lines, and when it is released, it can result in an earthquake. Faults are often associated with tectonic plate boundaries, but they can also occur within plates.
- **Other Natural Causes:** Earthquakes can also be triggered by other natural events such as landslides, glacial rebound (the Earth's response to melting ice), and the collapse of underground caves.

UPSC Mains Practice Questions:
1. Discuss about the vulnerability of India to earthquake-related hazards. Give examples including the salient features of major disasters caused by earthquakes in different parts of India during the last three decades. **(UPSC GS3 2021)**
2. The frequency of earthquakes appears to have increased in the Indian subcontinent. However, India's preparedness for mitigating their impact has significant gaps. Discuss various aspects. **(UPSC GS3 2015)**
3. What do you understand about the Theory of Continental Drift? Discuss the prominent evidence in its support. **(UPSC GS1 2013)**

MCQ

Question: Consider the following: **(UPSC CSE 2013)**
1. Electromagnetic radiation
2. Geothermal energy
3. Gravitational force
4. Plate movements
5. Rotation of the earth
6. Revolution of the earth

Which of the above is responsible for bringing dynamic changes on the surface of the earth?
a.   1, 2, 3 and 4 only
b.   1, 3, 5 and 6 only
c.   2, 4, 5, and 6 only
d.   1, 2, 3, 4, 5 and 6

Answer: (d)

Glacial Lake Outburst In North Sikkim Sparks Alert Across The State

Priority: Medium
Primary Source: Down To Earth
Relevance: Important Geophysical phenomena such as earthquakes, Tsunami, Volcanic activity, cyclone etc, Disaster and disaster management.
Prepp Prelims Booster: Glacial Lake Outburst Flood, River Teesta
Prepp Mains Booster: Issues Related to Occurrence, Impact and Mitigation of Glacial Lake Outburst Floods

Context
- Recently, a sudden glacial lake outburst took place in Chungthang in northern Sikkim leading to a rise in water level in the River Teesta.

What is a Glacial Lake Outburst Flood?
- These floods are typically triggered by the rapid melting of glaciers, heavy precipitation, or the inflow of meltwater. In February 2021, Chamoli district in Uttarakhand experienced flash floods suspected to have been caused by GLOFs.
- GLOFs are generally caused by:
  o rapid melting of glaciers

  o heavy precipitation
  o inflow of meltwater.
- According to a study published in Nature in February, around 15 million people across the world are at risk of sudden and deadly flooding from glacial lakes, which are expanding and rising in numbers due to global warming.
  o India, Pakistan, Peru, and China account for more than half of the people at risk.
- **Previous instance:** In 2013, flash floods occurred in Uttarakhand as a result of heavy rainfall and a GLOF caused by the Chorabari Tal glacial lake which resulted in the death of thousands and extensive infrastructural and property damage.

How can GLOFs be mitigated?
- **Identification of at-risk lakes:** The government must identify hazardous lakes through field observations, and an analysis of historical records, geomorphological and geotechnical features, and other physical conditions.
- **Adoption of Technology:** Synthetic-Aperture Radar (SAR) imagery can automatically detect changes in water bodies such as the formation of new lakes during the monsoon season.
- **Channeling Potential Floods:** Controlled methods such as breaching, pumping, siphoning, or creating tunnels through moraine barriers or under ice dams will help reduce the volume of water in glacial lakes.
  o A terminal moraine creates a barrier which traps water in a glacial lake, which is called a moraine-dammed lake.
- **Uniform Construction Codes:** The government must formulate comprehensive guidelines for infrastructure development, construction, and excavation in vulnerable areas.
  o It must also create a proper framework for land-use planning procedures in GLOF-prone regions.
- **Early Warning Systems (EWS):** Expansion and improvement of the early warning systems for GLOFs in use to a global standard.
  o In some Himalayan regions, sensor- and monitoring-based technical systems have been implemented to provide early warnings.
- **Human resource capacity building:** Local communities play a major role in search and rescue, as well as conservation efforts which must be recognized and tapped by the government.
  o Over 80% of search and rescue operations are often carried out by local communities before official intervention.
  o The NDMA has recommended training local personnel in disaster response activities in order to ensure lower casualties.
- **Comprehensive alarm systems:** Alarm infrastructure can be modernized by incorporating technologies like smartphones and social media to complement traditional siren-based alarms.

- **Rehabilitation:** Existing infrastructure and human populations, including illegal habitations, must be relocated from at-risk riparian basins.

River Teesta

- The Teesta River is a 414 km long major right-bank tributary of the Brahmaputra that flows through India and Bangladesh.
- **Origin:** It originates in the Himalayas near the Tso Lhamo Lake, in Sikkim.
- o The Pahurni Glacier, Khangse Glacier, and ChhoLhamo Lake are also considered sources of the river.
- **Route:** It flows through Sikkim to the south into West Bengal before entering Bangladesh.
- o It joins the Brahmaputra in Bangladesh and the Ganga and Meghana before flowing into the Bay of Bengal.
- o Originally it emptied directly into the Padma River but changed course after 1787 to meet the Jamuna (as Bhramaputra is known in Bangladesh).
- **River basin:** The river basin extends from Sikkim in the eastern Himalayas, through West Bengal to the northern Rangpur division in Bangladesh.
- o 83% of the river basin lies in India and the remaining 17% of it is in Bangladesh.
- o It is home to around 30 million people, most of whom live in the Bangladesh region.
- o The northern parts of the river basin are dry and cold while the southern and middle parts are hot, humid, and wet.
- **Barrages:** Two major large barrages have been constructed on the River Teesta at Gajoldoba in West Bengal and Duani in Bangladesh.
- **Tributaries:**
- o **Left-bank:** Lachung Chhu, Chakung Chhu, Dik Chhu, Rani Khola, and Rangpo Chhu.
- o **Right-bank:** Zemu Chhu, Rangyong Chhu and Rangeet River.
- **Characteristics:**
- o The Teesta River is characterized by heavy rainfall and floods in the monsoon season.
- o In north Sikkim which has steep and uneven terrain, extreme rainfall leads to slope transformation, landslides, etc, and deposits suspended sediments in the river channel.
- o The Upper Teesta River basin: Glacial, accumulation of debris, debris avalanches, and rock glaciers.
- o Middle and Lower Teesta River basin: Less slope and relatively subdued relief.
- o The Teesta and its tributaries generally flow with high velocity and turbulent flow and carry boulders and suspended sediments.
- o Temperatures are sub-zero in winter but rise to around 20 °C in summer in the upper part of the basin.
- **Significance:**

- o Bangladesh: Its flood plain covers about 14% of the total cropped area of Bangladesh and provides direct livelihood opportunities to 73% of its population.
- o West Bengal: Teesta is the lifeline of North Bengal with around 6 districts almost dependent on it for water.
- **Dispute:** Bangladesh claims 50% of the water between December and May every year as water flow to the country drops drastically during this time.
- o However, this request has been opposed by West Bengal.

UPSC Mains Practice Questions

Q.1) With reference to the National Disaster Management Authority (NDMA) guidelines, discuss the measures to be adopted to mitigate the impact of recent incidents of cloudbursts in many places of Uttarakhand. (UPSC GS3 2016)

Q.2) Explain the mechanism and occurrence of cloudburst in the context of the Indian subcontinent. Discuss two recent examples. (UPSC GS3 2022)

MCQs

Question: With reference to river Teesta, consider the following statements:

1. The source of river Teesta is the same as that of Brahmaputra but it flows through Sikkim.
2. River Rangeet originates in Sikkim and is a tributary of river Teesta.
3. River Teesta flows into the Bay of Bengal on the border of India and Bangladesh.

Which of the statements given above is/are correct?

(UPSC CSE 2017)

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

Answer: (b)

Economy (GS Paper Prelims) & GS Paper III (Main)

World Not On Track To Achieve Most SDGs By 2030

Priority: High

Primary Source: The Hindu

Relevance: Issue Related to Development; Issues relating to planning, mobilization, of resources, Growth and Development; Inclusive growth and issues arising from it.

Prepp Prelims Booster: Sustainable Development Goals (SDG)

Prepp Mains Booster: Challenges related to achieving Sustainable Development Goals (SDGs)

Context

- Recently, **leaders from the world gathered in New York for the Sustainable Development Goals (SDG) Summit 2023** and reaffirmed their **commitment to eradicate poverty and end hunger but expressed concern about**

the lack of progress on Sustainable Development Goals (SDGs).

- It was recognised that the **world was on track to meet only 15% of its 169 targets that make up the 17 goals.**

Key Highlights of the SDGs Summit 2023

- During the High-level SDG Summit in New York, leaders **endorsed a strong political declaration, reiterating their commitment to achieving sustainability and inclusivity by 2030.**
- They **acknowledged the increasing annual funding gap for SDGs,** which has grown from $2.5 trillion before the pandemic to an estimated $4.2 trillion.
- The **declaration also emphasized the full implementation of the Sendai Framework for Disaster Risk Reduction and stressed the importance of the Addis Ababa Action Agenda in financing the SDGs** within the 2030 Agenda.
  - **Sendai Framework for Disaster Risk Reduction (2015-2030):** It was the first major international agreement post-2015 and is the next step from Hyogo Framework (2005-15) for concrete steps for protecting development gains from disasters. It talks of 4 priorities for actions and 7 global targets.
  - **Addis Ababa Action agenda:** In 2015, the Addis Ababa Action Agenda had emphasized on efficient use of all financial flows, both public and private, for sustainable development and the need for integrated national financing frameworks.
- An **SDG stimulus is proposed by the UN Secretary-General that would significantly increase funding for SDG implementation by $500 billion annually.**

What are Sustainable Development Goals (SDGs)?

- The **United Nations Sustainable Development Goals (SDGs) are a set of 17 goals with 169 targets that all 193 UN member states have agreed to try to achieve by 2030.**
- It was **established by the United Nations in 2015** as part of the 2030 Agenda for Sustainable Development.
- It addresses **various interconnected challenges, including poverty, education, health, gender equality, clean energy, and environmental protection.**
- The SDGs **provide a holistic framework for governments, businesses, civil society organizations, and individuals to work together** towards a more equitable, inclusive, and sustainable world.
- SDGs are a matter of urgency, and **actions by all countries, both developed and developing, to end poverty and other socio-economic and environmental problems should align with these strategies**.

What are the challenges related to achieving Sustainable Development Goals (SDGs)?

- **Lack of Funding:** The 2023 UN report identified a $4 trillion investment gap in developing countries for the SDGs, a 70% increase from 2014. Approximately $2 trillion is required for the energy transition alone. This

lack of funding poses a substantial challenge to achieving the goals.

- **Inadequate Progress:** Many SDGs, particularly those related to biodiversity protection and greenhouse gas emissions, are not making the desired progress. Leaders are concerned about the slow pace of change and the possibility of some goals regressing.
- **Dis-Synergies:** The Agenda 2030 highlights the interconnection of the 17 SDGs, and academic literature explores synergies and trade-offs among them.
  - A 2019 paper in the Proceedings of the National Academy of Sciences identified five (dis)synergies related to resource allocation, enabling environments, co-benefits, cost-effectiveness, and saturation limits based on pilot studies in Senegal, Côte d'Ivoire, and Malawi. However, such quantifications and empirical evidence are limited.
- **Political and Economic Barriers:** A recent UN Expert Group Report on 'Synergy Solutions for a World in Crisis' addresses the lack of synergistic action and identifies barriers related to knowledge, politics, institutions, and economics.
- **Funding Prioritization:** In the case of India, the misalignment between renewable energy targets and the scale of applications needed can hinder progress. This is an example of how funding priorities can be a challenge.
- **Investment in High-Carbon Sources:** Some countries, including India, continue to invest in high-carbon energy sources due to security and reliability concerns, which can hinder progress toward climate and SDG goals.
- **Full Cost Estimation:** Exploiting domestic energy resources without a full cost estimation, including climate-change vulnerability, can lead to detrimental outcomes for both national and global efforts.
- **Reporting Frameworks:** Establishing reporting frameworks that capture the value created from specific SDG interventions can be challenging, especially when adapting existing literature to local contexts.

How has India performed on several SDG parameters?

- **SDG 1 (No Poverty):** According to the Multidimensional Poverty Index (MPI), a total of 415 million people moved out of poverty in India within just 15 years from 2005-2006 to 2019-21.
- **SDG 2 (Zero Hunger):** According to the Niti Aayog's report, a staggering 13.5 crore people successfully emerged from multidimensional poverty between 2016 and 2021. This progress was mirrored in a decline of 9.89 percentage points in the number of multidimensionally poor people, dropping from 24.85% in 2015-16 to 14.96% in 2019-21.
  - In the 2023 Global Hunger Index, India ranks 111th out of the 125 countries.

- **SDG 3 (Good Health and Well-being):** A WHO report titled 'Improving maternal and newborn health and survival and reducing stillbirth progress report 2023', observed that India's share of the total maternal and newborn deaths and stillbirths was about 17%.
- **SDG 4 (Quality Education):** The literacy rate in India has steadily increased over the years, with the latest figures estimating a literacy rate of around 77%. This is a positive indication of the quality of education being imparted in schools across the country.
- **SDG 5 (Gender Equality):** India had closed 64.3% of the overall gender gap. India is now ranked 127 out of 146 nations in terms of gender parity, up from 135 last year, according to the annual Gender Gap Report, 2023.
- **SDG 6 (Clean Water and Sanitation):** The Indian government has implemented several initiatives to work towards achieving SDG 6 like Swachh Bharat Mission and Jal Jeevan Mission, which has been instrumental in driving awareness and initiatives to eliminate open defecation, improve sanitation infrastructure, and promote hygiene behaviors.
- **SDG 7 (Renewable Energy):** India has committed to a goal of 500 GW renewable energy capacity by 2030. India stands 4th globally in Renewable Energy Installed Capacity (including Large Hydro), 4th in Wind Power capacity & 4th in Solar Power capacity (as per Renewables 2022 Global Status Report).

What are the Recommendations?

- **Recognize the Interconnectedness:** Acknowledge that the SDGs are interconnected, and actions in one area can have positive or negative impacts on others. Policymakers should consider these interconnections in decision-making processes.
- **Quantify Synergies and Trade-offs:** Quantify and analyze the synergies and trade-offs between different SDGs to make more informed policy decisions. Policymakers encounter evident contradictions and trade-offs when pursuing these goals.
  o **For instance,** pursuing economic growth in SDG8 might hinder progress on the climate action in SDG13, as industrialization introduces new pollutants contrary to environmental goals.
- **Leveraging Data:** Data collection and monitoring play a pivotal role in SDG tracking by providing essential information for progress evaluation, challenge identification, and informed decision-making. They empower countries to pinpoint areas requiring attention and are a cornerstone for governments to allocate resources efficiently to address pressing issues.
- **Adaptable Strategies:** The dynamic nature of global challenges requires flexible strategies. Countries may need to periodically reassess their priorities based on evolving circumstances and emerging issues.

- **Align Targets and Deliverables:** Ensure that targets and deliverables are aligned across different government departments and agencies.
- **Economic Considerations:** Recognize the economic aspect of sustainable development. Investing in clean energy and other sustainable practices can lead to economic benefits, such as improved air quality and human health, as well as job creation.
- **Reporting and Transparency:** Develop clear reporting frameworks for SDG interventions. Entities engaged in SDG reporting should identify and report on the value created from specific interventions. This can help track progress and identify areas for improvement.
- **Global Cooperation:** As countries prioritize SDGs, international cooperation remains crucial. Collaboration and information sharing facilitate shared learning, uniting nations in the pursuit of sustainable development.

Conclusion

Prioritizing specific Sustainable Development Goals (SDGs) is not just a strategic choice; it's becoming increasingly essential, given the current trajectory, which suggests that achieving all seventeen goals is at risk. By focusing on particular goals that align with local contexts and needs, resources and efforts can be channeled where they will have the most impact, effectively advancing the cause of sustainable development

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PYQ

Question: Consider the following statements: **(UPSC 2016)**

1. The Sustainable Development Goals were first proposed in 1972 by a global think tank called the 'Club of Rome'.
2. The Sustainable Development Goals have to be achieved by 2030.

Which of the statements given above is/are correct?

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

Answer: (b)

US Federal Reserve Policy Rates and Indian Economy

Priority: Medium

Primary Source: The Indian Express

Relevance: Indian Economy and issues relating to growth

Prepp Prelims Booster: U.S. Federal Reserve, Interest Rates

Prepp Mains Booster: Concerns Related To the Policy Rate of the U.S. Federal Reserve and its Impact on India

Context

- The US **Federal Reserve on Wednesday (September 20) left the policy rate unchanged** at 5.25-5.5%. This resulted in downward pressure on global markets, including in India.

Co-relationship between the Federal Reserve and Indian markets

- Emerging economies, such as **India, have higher inflation and interest rates than developed countries**, such as the United States and many European nations.
- As a result, **financial institutions, particularly Foreign Institutional Investors (FIIs), would prefer to borrow money in the United States at low-interest rates in dollar terms and then invest that money in the government bonds of emerging countries such as India** in local currency terms to earn a higher rate of interest.
- When the US Federal Reserve raises its domestic interest rates, the interest rate difference between the two countries decreases.
- This makes India less appealing for currency carry trades; as a result, some money may be expected to flow out of Indian markets and back to the US.
- A currency carries trade is a strategy in which a high-yielding currency funds a low-yielding currency trade.

What is the Impact of High Federal Interest Rates on India?

- **Interest rates in India:**
  - The RBI has stated that its decisions on **interest rates in India are driven by the domestic inflation scenario** and are not dependent on the US Fed's actions.
  - It may lead to an **increase in borrowing costs in India,** as investors may choose to invest in US securities instead of Indian securities. **This can lead to a reduction in domestic investment** and higher borrowing costs for businesses and individuals.
- **Foreign Portfolio Investors**:
  - Emerging economies such as **India tend to have higher inflation** and, therefore, higher interest rates than in developed countries.
  - Thus, investors including **Foreign Portfolio Investors tend to borrow in the US at lower interest rates in dollar terms, and invest that money in the bonds of countries such as India** in rupee terms to earn a higher rate of interest.
  - **If the rates in the US continue to stay high, it will impact fund flows into emerging markets resulted in out flow of funds.**
- **Pressure on the rupee**:
  - In the Indian economy, the rate hike could further weaken the domestic currency which has depreciated already.
  - **Depreciation of the Indian rupee** may result in costlier imports such as crude oil and other goods. This **may bring inflation in the** Indian Economy.
- **Equity Market:**
  - It can also impact the stock market in India. Higher US interest rates can lead to a reduction in demand for risky assets such as equities, which can **lead to a decline in stock prices in India**
- **External Debt:**
  - India's external debt is mostly denominated in US Dollars, a US Fed **rate hike can increase the cost of servicing that debt, as the value of the rupee may fall against the dollar.** This can lead to an increase in India's external debt burden and a negative impact on the economy.

What is the US Federal Policy Rate?

- The US is the world's biggest economy and the **Federal bank is the biggest central bank of the USA.**
- It was established in 1913 under the Federal Reserve Act, with the primary aim of addressing financial crises and fostering economic stability.
- The Federal Reserve controls the **three tools of monetary policy**:
  - Open market operations
  - Rate regulations
  - Reserve requirements

Monetary Policy Tools with RBI

Monetary policy tools are a set of tools that regulates the amount and growth rate of the money supply in a country. In India, the Reserve Bank of India (RBI) uses monetary policy tools to control the money supply in the economy.

Quantitative Instruments

The **Quantitative tools** are also known as the Reserve Bank of India's **general tools**.

These instruments are linked to the **quantity and volume of money**, as the name implies.

These instruments are used **to regulate the total amount of money and volume of bank credit in the economy.**

These are indirect instruments that are used to influence the amount of credit available in the economy.

Qualitative Instruments

Qualitative instruments are **selective instruments** of the RBI's monetary policy.

These instruments are used **to distinguish between different types of credit**, such as preferring export over import or essential credit supply over non-essential credit supply.

Both borrowers and lenders are affected by this strategy.

What is Appreciation vs Depreciation of Currency?

- **Currency Appreciation:** It is an increase in the value of one currency in relation to another currency.
  - Currencies appreciate against each other for a variety of reasons, including government policy, interest rates, trade balances and business cycles.
  - **Currency appreciation discourages a country's export activity as its products and services become costlier to buy.**
- **Currency Depreciation**: It is a fall in the value of a currency in a floating exchange rate system.
  - Economic fundamentals, political instability, or risk aversion can cause currency depreciation.
  - **Currency depreciation encourages a country's export activity as its products and services become cheaper to buy**

MCQs

Q. Consider the following statements: **(UPSC 2022)**

1. Tight monetary policy of the US Federal Reserve could lead to capital flight.
2. Capital flight may increase cost of firms with existing External Commercial Borrowings (ECBs)
3. Devaluation of domestic currency decreases the currency risk associated with ECBs

Which of the statements given above are correct?
(a) 1, 2 and 3
(b) 1 and 2 only
(c) 2 and 3 only
(d) 1, 2 and 3
Answer: (b)

Q. Indian Government Bond yields are influenced by which of the following? **(UPSC 2021)**
1. Actions of the United States Federal Reserve
2. Actions of the Reserve Bank of India
3. Inflation and short-term interest rates.
Select the correct answer using the code given below
a) 1 and 2 only
b) 2 only
c) 3 only
d) 1, 2 and 3
Answer: (d)

To Curb Evasion, EU Report Calls For 2% Global Wealth Tax On Billionaires

Priority: Medium
Primary Source: The Hindu
Relevance: Indian Economy and issues relating to planning, mobilization, of resources, growth, development and employment, Important International institutions, agencies and fora- their structure, mandate.
Prepp Prelims Booster: Global Tax Evasion Report 2024
Prepp Mains Booster: Issues Related To Tax Evasion, Associated Challenges and Steps Taken by the Government

Why in the news?
- Recently, the **Global Tax Evasion Report 2024** revealed that billionaires were using tax evasion to ensure that effective taxes paid by them equaled just 0 to 0.5% of their wealth and recommended a global minimum tax on billionaires equal to 2% of their wealth.

What is the Global Tax Evasion Report?
- The **'Global Tax Evasion Report'** is compiled by the **EU Tax Observatory**, a research institution specializing in international tax matters, established in 2021.

What has the Global Tax Evasion Report 2024 stated?
- **Tax Evasion:** Billionaires have been using tax evasion techniques to effectively pay tax rates as low as **0% to 0.5% of their wealth.**
- **Wealth tax:** The EU Tax Observatory, which prepared the Report, **recommended a global minimum tax on billionaires equal to 2% of their wealth** would help tackle evasion and **generate around $250 billion** from less than 3,000 individuals.

- Although only a small amount of taxpayers would be affected, the tax rate of 2%) was justified as modest since the **wealth of billionaires has grown at 7% a year on average since 1995**
- **On efforts to curb tax evasion:** It found that **over the last 10 years, the automatic exchange of bank information had helped reduce offshore tax evasion by three times.**
  - Prior to this, 10% of the world GDP in financial wealth was placed in tax havens globally with the majority of it belonging to high net-worth individuals and not declared to tax authorities.
  - **Today, the equivalent of 10% of world GDP is found in offshore household financial wealth, but only 25% of it evades taxation.**

Why did India abolish wealth tax?
The purpose of wealth tax was to reduce inequalities in wealth. Wealth tax was abolished in the 2015 budget (that was effective FY 2015-16), since the cost incurred for tax recovery was higher than the benefit emanated.

What are the challenges to tax evasion identified by the Report?
- **Lack of compliance by financial institutions:** Some offshore financial institutions have been reluctant to comply with the requirement to automatically exchange bank information due to fears of losing their customer bases.
  - These institutions do not face any significant threat of penalties from foreign tax authorities for noncompliance with tax regulations.
  - This allows people to own financial assets in offshore accounts without reporting them.
- **Loopholes in asset classification:** High-net-worth individuals have shifted their holdings to **categories of assets like real estate that are not covered under the agreement.**
  - The report recommends expanding the range of assets included under the system of automatic exchange of information.
- **Greenwashing of the Global Minimum Tax:** Although the **global minimum tax of 15% on MNCs was expected to increase global tax revenues by 10% loopholes have been exploited to reduce expected revenues by a factor of 2.**
  - MNCs use green tax credits for low carbon transition to reduce their tax rates way below the minimum of 15%.
- **Aggressive tax competition:** The rise of **preferential tax regimes** targeting wealthy foreign individuals has significantly affected government revenues.
  - The number of preferential tax regimes has increased from 5 to 28 in the EU and UK.
  - They offer tax exemptions or reductions to incoming residents while preserving the general income tax schedule applied to domestic taxpayers.

o However, this **weakens overall tax collection since adopting governments voluntarily forgo tax revenues and inflict negative spillover effects on other countries.**

What is tax evasion?

- Tax evasion consists of illegal practices that are employed to reduce one's tax liability.
- **Methods:**
o **Failure to Pay Taxes:** Individuals or entities refuse to pay taxes.
o **Smuggling:** Illegal transport of items across borders to evade taxes or tariffs.
o **Falsely Filing:** Misleading or incorrect information on tax returns is filed to pay less taxes or claim exemptions than owed through false financial documents.
o **Bribery:** Individuals offer bribes to officials to avoid paying taxes.
o **Offshore accounting:** Individuals use offshore accounts and unreported assets to evade taxes.

Causes:

- **High Tax Rates:** People are found to evade taxes when tax rates are disproportionately high compared to incomes.
- **Inefficient Tax Authorities:** Inadequate vigilance by tax authorities and lack of strict enforcement enables tax evasion.
- **Multiple Taxes:** The imposition of multiple taxes at various levels on the same activity encourages underreporting.

Impact on the Economy

- **Reduced Government Revenue:** The government estimated tax revenues are not achieved due to the evasion by individuals.
- **Inflation:** Commodity prices in the economy rise due to the excess money available due to the rise of black money.
o This could also lead to a rise in estate prices as it can help convert unaccounted money into legal currency.
- **Wealth Inequality:** Tax evasion contributes to the unequal distribution of wealth and income in society.
- **Corruption:** Corruption and tax evasion contribute to the development of an underground economy.
- **Funds Transferred Abroad:** Black money holders often transfer their wealth abroad using tactics like under-invoicing and over-invoicing of imports.

New taxes introduced by the EU

- **Global minimum tax:** The EU has agreed to implement a minimum tax of 15% on big businesses which was approved at the **G20 Leaders Summit in Rome** in
o This proposes to impose a minimum tax on corporate income in most countries and establish a two-pillar solution revising tax rules to address **profit shifting and tax base erosio**n caused by tax evasion.

- **Carbon border adjustment mechanism:** The **Carbon Border Adjustment Mechanism (CBAM)** will be introduced in its transitional phase from October 2023.
o It will levy a carbon tax on imports of products made from processes that are not environmentally sustainable or green.
o It will impose a **20-35% tax on select imports into the EU from January 2026.**
o It is part of the **"Fit for 55 in 2030 package"** of the **EU's plan to reduce greenhouse gas emissions by at least 55% by 2030 compared to 1990 levels**
- **Plastic tax:** The EU has imposed a levy on non-recycled plastic packaging waste.
o It is a contribution from the Member States to the EU, based on the amount of non-recycled plastic packaging waste produced by each member state.
o It is expected to **generate an additional revenue of 6-8 billion Euros** for the EU every year.
- **Energy Taxation Directive (ETD):** It is the EU's framework for the taxation of energy products including electricity, motor, and most heating fuels.
o It aims to encourage a **low-carbon economy by widening the tax base and introducing tax rates based on the energy content and environmental impact of energy products.**

Steps taken by the Indian Government to Curb Tax Evasion

- India is a signatory to the **Inter-Government Agreement (IGA) on the Foreign Account Tax Compliance Act (FATCA)** with the USA**.**
- In 2015 India signed a **Multilateral Competent Authority Agreement on Automatic Exchange of Financial Account Information.**
- In the Budget 2016, an equalization levy was introduced on payments exceeding ₹1 lakh to online ad services from non-resident entities.
- India introduced Country-by-Country reporting requirements through the **Indian Income Tax Act, 1961 through the Finance Act 2016.**
- India is a signatory to the agreement for the exchange of country-by-country reports with the US to interchange reports filed by multinational enterprises in respective countries.
- The **Patent Box tax regime** was implemented in India by the enactment of the new Section 115BBF in the Finance Act of 2016.
- The Government has established the **Tax Administration Reform Commission** to undertake fundamental reforms to tax concerns in order to simplify and streamline tax procedures.
o Previously, India established a number of committees, including the Taxation Enquiry Committee, the Indian Tax Reforms Committee, and the Direct Taxes Enquiry Committees, among others.

- The Finance Bill introduced the Transfer Pricing Audit to audit concealed transactions in order to combat tax avoidance.

Conclusion
- Tax evasion is a major concern faced by countries since taxes make up a vital source of revenue for their governments.
- Ensuring proper tax compliance will help improve the health of the economy but it is constrained by the lack of compliance and loopholes in the laws.
- Therefore, the imposition of a global minimum tax can act as a universal tool to tackle tax evasion and prevent the erosion of government revenue.

> **UPSC Mains Practice Questions**
> **Q.1)** There is a clear acknowledgement that Special Economic Zones (SEZs) are a tool of industrial development, manufacturing and exports. Recognizing this potential, the whole instrumentality of SEZs requires augmentation. Discuss the issues plaguing the success of SEZs with respect to taxation, governing laws and administration. (UPSC GS3 2015)

> **MCQs**
> **Question:** The term 'Base Erosion and Profit Shifting' is sometimes seen in the news in the context of (UPSC CSE 2016)
> a. mining operation by multinational companies in resource-rich but backward areas
> b. curbing of the tax evasion by multinational companies
> c. exploitation of genetic resources of a country by multinational companies
> d. lack of consideration of environmental costs in the planning and implementation of developmental projects
> **Answer: (b)**

India-Japan Fund $600 mn Fund under NIIF

Priority: Medium
Primary Source: The Hindu
Relevance: Bilateral, Regional and Global Groupings and agreements involving India; Indian Economy and issues relating to planning, mobilization of resources, growth, development and employment
Prepp Prelims Booster: India-Japan Fund, NIIF
Prepp Mains Booster: Issues Related To Investment and the National Infrastructure Investment Fund

Context
- Recently, the **National Investment and Infrastructure Fund (NIIF) has entered into a collaboration with Japan Bank for International Cooperation (JBIC) to unveil a $600 million India-Japan Fund.**

What is India-Japan Fund (IJF)?
- The **Indian government will contribute 49% to the target corpus for the India-Japan fund, which is also NIIF's first bilateral fund, while the remaining 51% will be contributed by JBIC.**

- The primary focus of the India-Japan Fund will be on investments in environmental sustainability and strategies to reduce carbon emissions.
- It aims to channel **investments into India's environmental conservation sectors, encompassing renewable energy, e-mobility, and circular economy areas like waste management and water management.**
- Its objective is to serve as a preferred partner to promote increased Japanese investments in India.
- The **setting up of the India-Japan Fund represents a key milestone in the strategic and economic partnership** between the Japanese Government and Indian Government.

About National Investment and Infrastructure Fund (NIIF)
- NIIF is a **collaborative investment platform for international and Indian investors who are looking for investment opportunities in infrastructure and other high-growth sectors** of the country.
- It is **India's first infrastructure specific investment fund and was set up by the Government of India in February 2015.**
- It was set up as Category II Alternative Investment Fund (AIF) under the Securities and Exchange Board of India (SEBI) Regulations.
- The total corpus of the fund is Rs.40,000 crore.
- The **Indian government has a 49 % stake in NIIF** with the rest held by marquee foreign and domestic investors.
- It is headquartered in Mumbai.
- **Governance:**
  o NIIF has a Governing Council, which is chaired by the Hon'ble Finance Minister of India.
  o It comprises eminent members from corporates, investments, and policy sectors.
  o The Governing Council meets annually and provides guidance on the overall strategy of NIIF.

Functions of NIIF
- Raising funds through various instruments such as offshore credit-enhanced bonds and attracting anchor investors to join as partners in NIIF.
- Managing the servicing and support for the investors involved with NIIF.
- Evaluating and approving potential companies, institutions, and projects, including those owned by state entities, for investments, and conducting regular monitoring of these investments.
- Investing in funds created by Asset Management Companies (AMCs) dedicated to private equity investments.
- Developing a portfolio of infrastructure projects and offering advisory services related to infrastructure development.

Funds managed by NIIF
- **Master Fund:** It is an infrastructure fund with the objective of primarily investing in operating assets in the

core infrastructure sectors such as roads, ports, airports, power etc.

· **Fund of Funds:** It is managed by fund managers who have good track records in infrastructure and associated sectors in India. Some of the sectors of focus include Green Infrastructure, Mid-Income & Affordable Housing, Infrastructure services and allied sectors.

· **Strategic Investment Fund:** It is registered as an Alternative Investment Fund II under SEBI in India. The objective is to invest largely in equity and equity-linked instruments. It will focus on greenfield and brown field investments in the core infrastructure sectors.

Investors of NIIF

- **NIIF's Inaugural Investment Deal:** In October 2017, the National Investment and Infrastructure Fund (NIIF) initiated its journey by securing a landmark $1 billion investment from the Abu Dhabi Investment Authority (ADIA). This move established ADIA as the first international investor in the master fund.
- **Domestic Investors:** NIIF's investors include prominent Indian financial institutions like HDFC Bank, Axis Bank, ICICI Bank, and Kotak Mahindra Life.
- **Asian Infrastructure Investment Bank (AIIB):** In June 2018, AIIB committed to investing $200 million in NIIF.
- **First Fund-of-Funds and Investment Sources:** The first fund-of-funds received commitments totaling $600 million, backed by support from the Indian government and various multilateral institutions such as AIIB, ADB, and NDB.

Portfolio Management and Funds of NIIF

- **Equity Capital Commitments:** NIIF effectively manages over $4.3 billion in equity capital commitments, distributed across three funds: Master Fund, Fund-of-Funds, and Strategic Opportunities Fund.
- **Strategic Opportunities Fund:** The Strategic Opportunities Fund directly invests in companies like FirstCry and Ather Energy, focusing on strategic investments.
- **Master Fund:** The Master Fund primarily focuses on core infrastructure sectors and stands as one of India's largest infrastructure funds. NIIF has plans to launch its first Infrastructure Investment Trust (InvIT) for its road assets, with an estimated portfolio value of approximately $2 billion.

Role of NIIF in Economy Building

- **Catalyzing Multi-modal Connectivity:** NIIF acts as a catalyst in realizing the vision of Gati Shakti, the National Master Plan for Multi-modal Connectivity, thereby promoting seamless transportation and logistics networks.
- **Providing Capital for Infrastructure:** NIIF addresses the funding gap in the capital-constrained infrastructure sector by channeling much-needed investment into critical projects.
- **Enhancing Infrastructure Liquidation:** The infrastructure sector requires significant long-term

funding, including old and new projects in areas like roads, railways, ports, airports, and energy. The National Investment and Infrastructure Fund (NIIF) can play a crucial role by providing patient capital for these projects with extended gestation periods.

- **Mitigating Banking Sector Challenges:** NIIF helps relieve banks from the burden of providing long-term funds to infrastructure projects, reducing asset-liability mismatches in the banking sector, and promoting overall financial stability.

Challenges faced by NIIF

- **Funding and Capital Raising:** One of the primary challenges is raising sufficient capital to finance large-scale infrastructure projects. This requires attracting investments from various sources, such as government contributions, domestic and foreign investors, and multilateral institutions.
- **Attracting International Investors:** While NIIF seeks to attract international investors, it may face challenges related to regulatory compliance, geopolitical factors, and market conditions that affect foreign investment in India.
- **Project Identification and Development:** Identifying viable infrastructure projects and preparing them for investment can be a lengthy and complex process. It involves conducting feasibility studies, securing necessary permits, and addressing regulatory hurdles.
- **Policy and Regulatory Uncertainty:** Changes in government policies, regulations, and taxation can impact the attractiveness of infrastructure investments. Such uncertainty can deter potential investors.
- **Coordinating with Stakeholders:** Collaborating with various government agencies, private investors, and other stakeholders to ensure successful infrastructure development can be challenging due to differing interests and priorities.
- **Market and Economic Volatility:** Economic fluctuations and market volatility can affect the performance of infrastructure investments, making it challenging to achieve stable and predictable returns.

Conclusion

- The NIIF-JBIC collaboration for the India-Japan Fund strengthens economic ties and promotes sustainable infrastructure. While NIIF is India's pioneer infrastructure investment fund, challenges in raising capital, attracting global investors, project development, and regulatory uncertainties need to be addressed for it to effectively drive infrastructure growth and economic stability.

PYQs

Question: With reference to 'National Investment and Infrastructure Fund', which of the following statements is/are correct? **(UPSC 2017)**

1. It is an organ of NITI Aayog.
2. It has a corpus of Rs 4,00,000 crore at present.

Select the correct answer using the code given below:

a.   1 only
b.   2 only
c.   Both 1 and 2
d.   Neither 1 nor 2
Answer: (d)

India Ranks 111 Out Of 125 Countries In Global Hunger Index

Priority: High
Primary Source: The Hindu
Relevance: Issues relating to poverty and hunger, Reports, and Indices in the news
Prepp Prelims Booster: Global Hunger Index
Prepp Mains Booster: Issues Related to the Global Hunger Index and India's Concerns

Context
- Recently, India was ranked 111th out of a total of 125 countries in the Global Hunger Index (GHI) 2023. Neighboring countries, such as Pakistan (102nd), Bangladesh (81st), Nepal (69th), and Sri Lanka (60th), scored better than India.
- Factors such as socioeconomic disparities, hidden hunger, inefficient agriculture, and gender inequality contribute to the severity of the issue. Despite India's concerns about the methodology, the need for comprehensive efforts to combat hunger remains evident.

Performance of India according to Global Hunger Index 2023?
- **Rank:** India has been ranked **111th out of 125** placed in the 2023 Global Hunger Index.
- **Score and severity:** India scored 28.7 out of a total of 100 points and the severity of hunger in the country has been rated as "**severe**".
- **Child wasting:** India's child wasting rate of **18.7%** is the highest recorded by the index.
- **Undernourishment:** The rate of undernourishment in India is **16.6%.**
- **Child mortality:** The Index found the under-five mortality in India to be **3.1%.**
- **Anemia:** In women between the ages of 15 and 24 years, the prevalence of anemia was **58.1%.**
  - **Anemia is a condition in which the number of red blood cells or the concentration of hemoglobin in the body is lower than normal, which means the capacity of blood to carry oxygen to the body's tissues decreases.**
  - **Symptoms:** Fatigue, weakness, dizziness, and shortness of breath.
  - It is a major health concern for young children, menstruating adolescent girls and women, and pregnant and postpartum women.
- **Performance since 2015:** Between 2000 and 2015, India's score had improved from 38.4 to 29.2.
  - **However, since 2015, India's GHI score has only improved by 0.5 points.**

Global performance

- The 2023 **GHI score for the world is 18.3** and has been classified as the **"moderate"** category.
- **Best performers:** Belarus, Bosnia & Herzegovina, Chile, China, and Croatia respectively occupied the top 5 places in the 2023 GHI.
  - **Europe and Central Asia scored 6.0 (low hunger**) making it the best-performing region followed by **East and Southeast Asia**.
- **Worst performers: South Asia and sub-Saharan Africa** are the world regions with the highest hunger levels, each with a **GHI score of 27 (serious hunger).**
  - Lesotho (35.5), the Dem. Rep. of the Congo (35.7), Yemen (39.9), Madagascar (41), and the Central African Republic (42.3) were the worst-performing countries.
  - **West Asia and North Africa have the third-highest hunger levels** with a score of 11.9 (moderate).
- **India's Neighbours:** Pakistan has been ranked 102nd, Bangladesh 81st, Nepal 69th, and Sri Lanka 60th in the index.
- **Undernourishment:** The share of the undernourished population has risen from **7.5% in 2017 to 9.2% in 2022,** which accounts for around 735 million people.

What are the Factors Responsible for Hunger in India?
1. **Socioeconomic Disparities and Poverty:** Widespread poverty and inequality lead to insufficient food consumption and hinder access to essential healthcare and nutrition services.
2. **Hidden Hunger:** India grapples with severe micronutrient deficiency due to factors like inadequate diets, diseases, and a lack of nutritional support during pregnancy and lactation.
3. **Inefficient Agriculture and Food Distribution:** Suboptimal crop yields, post-harvest losses, and issues in food distribution contribute to food scarcity, raising prices and disproportionately affecting the impoverished.
4. **Gender Inequality:** Women and girls often face unequal access to food within households, leading to nutritional disparities and increased risks of undernutrition, aggravated by maternal and child care demands.
5. **Climate Change and Environmental Stressors:** Climate-related challenges disrupt agricultural production, causing crop failures and food shortages.
6. **Lack of Nutritional Program Audits**: Many nutrition-focused programs lack proper audit mechanisms at the local governance level.

Global Hunger Index
- The **Global Hunger Index (GHI)** is an annual index that is jointly published by **Concern Worldwide** and **Welthungerhilfe**, two European NGOs.
- It is an annual peer-reviewed report with a focus on **SDG 2 i.e. Achieving Zero Hunger by 2030.**
- It uses a 100-point scale, ranging from 0 (indicating no hunger) to 100 (representing severe hunger).

- It aims to monitor hunger globally, regionally, and within individual countries and drive collective efforts to alleviate global hunger.

Indicators:

- **Undernourishment:** Proportion of the population suffering from insufficient nourishment. It is a measure of access to nutrition and refers to the entire population, both children and adults.
- **Child Wasting:** Percentage of children under five with low weight relative to their height. It is an indicator of recent and severe weight loss and can persist for a long time. It occurs when a person has not had food of adequate quality and quantity and/or has frequent or prolonged illnesses.
- **Child Stunting:** Percentage of children under five with low height relative to age. It prevents them from reaching their full mental and physical potential and is associated with chronic undernutrition caused by factors like poverty, poor maternal health and nutrition, frequent illness, and inadequate care and nutrition in early childhood.
- **Child Mortality:** Mortality rate of children under the age of five. UNICEF defines child mortality as the probability that a newborn would die before reaching 5 years of age. It is expressed as the number of under-five deaths per 1,000 live births.

Why has India questioned the Index?

- **Flawed methodology:** According to the Union Ministry of Women and Child Development, the Index uses a **flawed measure of hunger** that does not accurately reflect India's position.
- **Discrepancies in data:** According to the **Poshan Tracker portal**, the **prevalence of child wasting is 7.2%** among a total of 7.24 crore under-five-year-olds.
  - However, the **GHI uses a score of 18.7%**, which has been obtained from **NFHS-5 (2019–2021**) after it was reported in the **Joint Malnutrition Estimates Joint Data Set Including Survey Estimates**, a global repository established to ensure harmonized child nutrition estimates.
  - According to the GHI, it uses the same data sources for all countries to ensure that all the rates used have been produced using comparable methodologies and any exceptions would compromise the index.
- **Telephone-based opinion poll:** The MoWCD has alleged that the GHI uses a telephone-based opinion poll to calculate undernourishment.
  - However, the GHI claims that undernourishment is calculated using data from **India's Food Balance Sheet.**
- **Sample size:** Only a **small sample size of 3,000** is used for the "Proportion of Undernourished Population" indicator against the crores of Indian people.
- **Child mortality:** India has also challenged the claim that child mortality is solely an outcome of hunger.

  - Instead, factors like **poverty, inequality,** and **conflict** all contribute to child mortality.
- **Western bias:** India and other critics have criticized the report for having a **Western bias** and being a **tool of Western hegemony**.
  - Other reports like the **World Banks's Ease of Doing Business** report have also been similarly criticized.

Conclusion

India's 111th rank in the 2023 Global Hunger Index underscores the persistent challenge of hunger and malnutrition within the country. While India has raised concerns about the methodology, the pressing need for comprehensive strategies to combat hunger and improve nutritional outcomes remains undeniable.

UPSC Mains Previous Year Questions

Q.1) There is a growing divergence in the relationship between poverty and hunger in India. The shrinking of social expenditure by the government is forcing the poor to spend more on non-food essential items squeezing their food budget – Elucidate. **(UPSC GS2 2018)**

Q.2) How far do you agree with the view that the focus on lack or availability of food as the main cause of hunger takes the attention away from ineffective human development policies in India? **(UPSC GS2 2018)**

Q.3) Hunger and Poverty are the biggest challenges for good governance in India still today. Evaluate how far successive governments have progressed in dealing with these humongous problems. Suggest measures for improvement. **(UPSC GS2 2017)**

MCQs

Question: Which of the following are the objectives of the 'National Nutrition Mission'? **(UPSC CSE 2017)**

1. To create awareness relating to malnutrition among pregnant women and lactating mothers.
2. To reduce the incidence of anemia among young children, adolescent girls, and women.
3. To promote the consumption of millets, coarse cereals, and unpolished rice.
4. To promote the consumption of poultry eggs.

Select the correct answer using the code given below:

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

Answer: (a)

Question: Which of the following is/are the indicator/indicators used by IFPRI to compute the Global Hunger Index Report? **(UPSC CSE 2016)**

1. Undernourishment
2. Child stunting
3. Child mortality.

Select the correct answer using the code given below.

a.   1 only
b.   2 and 3 only

c.   1, 2 and 3
d.   1 and 3 only
Answer: (c)

Food Stock-Holding, E-Commerce Tax On WTO Meet Agenda

Priority: Medium

Primary Source: Financial Express

Relevance: Important International institutions, agencies and fora- their structure, mandate. Indian Economy and issues relating to planning, mobilization, of resources, growth, development and employment.

Prepp Prelims Booster: WTO

Prepp Mains Booster: Concerns Related To the WTO and Necessary Reforms

Why in the news?

- Recently, senior officials from WTO member countries met in Geneva to review the progress made on decisions of the WTO Ministerial Council and discuss reforms in the WTO.

Highlights of the WTO Meeting

- The two-day meeting of WTO member countries, held in Geneva, is a precursor to the **WTO Ministerial Conference** scheduled to be held in Abu Dhabi in February 2024.
- **Objective:** Officials of the WTO member states will address specific problems that must be addressed at the 13th ministerial conference.
  o It will review the status of progress made on the decisions of the previous ministerial conference (2022 in Geneva) and discuss the reforms required in the global trade regulating body.
- **Trade Negotiations Committee:** The officials will also be participating in the **Trade Negotiations Committee** of the **WTO General Council**.
- **Summary document:** This document will mention the action taken and the political guidance or instruction provided.

What is the agenda of the meeting?

- **Agriculture:** The meeting is expected to provide guidance on agriculture negotiations focussed particularly on **addressing the challenge of food security** faced by countries across the world.
  o **India and other developing countries have demanded a permanent solution to provisions such as public stockholding and government purchases at administered prices.**
  o According to the developing countries, these provisions are a building block of food security superstructure.
  o However, **larger food exporters have claimed that food security can be achieved by eliminating food subsidies** that distort the general price framework.
- **Peace clause:** At the Ministerial Meeting in Bali in 2013, member countries had agreed on a **peace clause** that would allow them to carry on with their domestic support programmes.

  o It states that **no country would be legally barred from food security programs for its own people even if the subsidy breached the limits specified in the WTO Agreement on Agriculture**.
  o However, this is a **temporary provision** that developing countries have demanded be made permanent.
  o The earlier Peace Clause or **Article 13 of the WTO Agreement on Agriculture** stated that domestic support measures and export subsidies of member countries that were legal under the provisions of the Agreement could not be challenged by other members on grounds of being illegal under the provisions of other WTO agreements.

- **Taxes on cross-border e-commerce:** I**ndia has called for the halting of the moratorium on taxes on cross-border trade via e-commerce.**
  o Member countries had agreed on the moratorium in 1988, and it has been subsequently extended every two years.
  o India has stated that the exponential growth of the e-commerce sector has made it necessary for the sector to be taxed as it could generate significant revenue for the government.
  o According to India, the **Council for Trade in Goods, Council for Trade in Services, Council for TRIPS and the Committee for Trade and Development** should take up discussions on e-commerce as per their respective mandates.
  o According to a report by **Allied Market Research**, the **global cross-border b2c e-commerce market is projected to grow to $7938.2 billion by 2031 from $784.6 billion in 2021, at a CAGR of 26.2%.**
  o A joint report on the taxation of cross-border trade via e-commerce prepared by the **WTO, IMF, World Bank, UNCTAD**, and **OECD** will be released in November 2023.

WTO Farm subsidy norms

- **Amber Box:** These are subsidies that can distort international trade by making a country's products cheaper in comparison to those of other countries.
  o Examples: Subsidies for inputs such as fertilizers, seeds, electricity, irrigation, and Minimum Support Price (MSP).
  o It is used for all domestic support measures that distort production and trade.
  o Signatories are required to commit to reducing amber box support and keep it within 5-10% of the total value of production, i.e the De Minimis Clause.
- **Blue Box:** It is an "amber box with conditions" which aims to reduce distortion.
  o These subsidies aim to limit production by imposing production quotas or requiring farmers to set aside part of their land.
  o At present, there are no limits on spending on blue box subsidies.
- **Green Box:** It includes domestic support measures that cause minimal or no trade distortion.

o   They are government-funded without any price support to crops and include environmental protection and regional development programs.

o   No limits are imposed on green box subsidies except in certain circumstances.

Why does it need reforms?

• **Bias to the Global North:** The developing and less developed countries of the Global South have claimed that their concerns and views have not been adequately valued, especially with respect to agricultural and other exports.

• **Subsidy limits**: The WTO member country's food subsidy bill must not breach the limit of 10% of the value of production based on the reference price of 1986-88.

o   However, this does not consider the subsidies for agriculture and poor farmers in developing countries.

o   As a result, food security is comparatively stronger in developed nations than in developing countries.

• **Rising Food Insecurity:** The COVID-19 pandemic and the Russia-Ukraine conflict have highlighted the challenges to food security.

o   Developing countries have highlighted these challenges to reform subsidy norms for food and fertilizer products.

WTO

• The World Trade Organisation (WTO) is the sole international organization that deals with international trade rules.

• It is headquartered in Geneva, Switzerland.

• **Treaty basis:** It was established in 1995 following the culmination of the **Uruguay Round** of talks through the "**Marrakesh Agreement".**

• **Membership:** The World Trade Organisation (WTO) has 164 countries as members including the EU, Hong Kong, Macau, and Taiwan.

o   India is also a member of the WTO.

• **Objectives:**

o   Establish the rule of law in international trade.

o   Ensure free and fair trade.

o   Maintain transparency and predictability in international trade.

o   Contribute to the development of developing countries.

• **Hierarchy:**

o   The **Ministerial Conference**, which is made up of all member states and meets twice a year, is the highest decision-making body of the organization.

o   The **General Council** is the next major decision-making body of the WTO and handles all the daily work between Ministerial Conferences.

o   Although the General Council's membership is similar to that of the **Dispute Settlement Body** and the **Trade Policy Review Body**, they differ in terms of their term of reference.

Functions:

• **Administering WTO trade agreements:** The WTO agreements cover products, services, and intellectual property.

o   Governments are required to make their trade policies open by alerting the WTO about laws in place and actions enacted and reporting on their trade policies on a regular basis.

• **Forum for trade negotiations:** It acts as a forum for trade negotiations by providing a framework for structuring agreements and offering dispute resolution services.

• **Handling trade disputes:** WTO also operates as a dispute resolution body at which members can file complaints against other members.

o   Formal hearings are held to achieve a resolution.

• **Monitoring national trade policies:** In case of disputes between members, the WTO monitors national trade policies using trade reviews and status reports of members.

• **Technical assistance and training for developing countries:** The WTO's special initiatives assist poor nations in improving their capacity to engage in free trade with developed countries.

o   They are also incentivized to assist them transition to free trade with other countries through some agreements.

• **Cooperation with other international organizations:** It cooperates with others on issues of mutual concern and participates as an observer in some fora.

Conclusion

• Food security challenges due to environmental crises and geopolitical challenges like the conflict between Russia and Ukraine have underlined the necessity of a global agreement on agricultural and food subsidies.

• Developing and developed countries have also differed in their opinions on other topics such as taxation of e-commerce.

• The WTO can play a critical role in addressing such challenges due to its global mandate, wide membership, and dispute resolution structure.

PYQs

Q.1) What are the direct and indirect subsidies provided to the farm sector in India? Discuss the issues raised by the World Trade Organization (WTO) in relation to agricultural subsidies. (UPSC GS3 2023)

Q.2) Food security bill is expected to eliminate hunger and malnutrition in India. Critically discuss various apprehensions in its effective implementation along with the concerns it has generated in WTO. (UPSC GS3 2013)

Q.3) WTO is an important international institution where decisions taken affect countries in a profound manner. What is the mandate of WTO and how binding are their decisions? Critically analyze India's stand on the latest round of talks on Food security. (UPSC GS2 2014)

Q.4) "The broader aims and objectives of WTO are to manage and promote international trade in the era of globalization. But the Doha Round of negotiations seem doomed due to differences between the developed and the developing countries." Discuss in the Indian perspective. (UPSC GS2 2016)

Q.5) What are the key areas of reform if the WTO has to survive in the present context of the 'Trade War', especially keeping in mind the interest of India? (UPSC GS2 2018)

MCQs

Question: In the context of which of the following do you sometimes find the terms 'amber box, blue box, and green box' in the news? (2016)
a.   WTO affairs
b.   SAARC affairs
c.   UNFCCC affairs
d.   India-EU negotiations on FTA
Answer: (a)

Question: Consider the following statements: (2017)
1.   India has ratified the Trade Facilitation Agreement (TFA) of WTO.
2.   TFA is a part of WTO's Bali Ministerial Package of 2013.
3.   TFA came into force in January 2016.
Which of the statements given above is/are correct?
a.   1 and 2 only
b.   1 and 3 only
c.   2 and 3 only
d.   1, 2 and 3
Answer: (a)

Question: Which one of the following countries has been suffering from decades of civil strife and food shortages and was in the news in the recent past for its very severe famine? (UPSC CSE 2023)
a.   Angola
b.   Costa Rice
c.   Ecuador
d.   Somalia
Answer: (d)

Centre Approves Rs.22,303 Crore Subsidy On Key Fertilizers

Priority: Medium

Primary Source: The Hindu

Relevance: Direct & Indirect Farm Subsidies

Prepp Prelims Booster: Subsidies on Fertilizers, Nutrient-Based Subsidy Scheme

Prepp Mains Booster: System for Fertilizer Subsidies in India, Government Initiatives, and Associated Challenges**Why in the news?**

- Recently, the **Union Cabinet approved a ₹22,303-crore subsidy for phosphatic and potassic (P&K) fertilisers and the nutrient-based subsidy (NBS) rates** for nitrogen, phosphorus and potassium (NPK) fertilisers **for the 2023-24 Rabi season**.

What is Fertiliser Subsidy?

- A fertiliser subsidy is a **financial assistance or support provided by the government to farmers or agricultural producers** for the purchase of fertilisers.
- **Fertilizer use in India has increased dramatically since the Green Revolution** (mid-1960s).
- To encourage and facilitate the use of fertilisers, the **government has provided farmers with fertiliser subsidies.**
- It has evolved into a critical component of agricultural input support.
- **Some of the important types of fertilizers include:**
  o Nitrogenous (Urea, Ammonium Nitrate, Ammonium Sulphate)
  o Potassic (Potassium Nitrate, Chile Saltpetre)
  o Phosphatic (Super Phosphate, Triple Phosphate)

About Nutrient Based Subsidy (NBS) Scheme

- The Nutrient Based Subsidy Scheme for fertilizers was **initiated in 2010 by the Department of Fertilizers.**
- This policy entails the **government annually setting predetermined subsidy rates for specific nutrients,** which include Nitrogen (N), Phosphate (P), Potash (K), and Sulphur (S).
- Its **objective is to achieve a balanced utilization of fertilizers, enhance agricultural productivity, stimulate the growth of the domestic fertilizer industry, and alleviate the subsidy burden.**

Mechanism of Subsidies in India

- Subsidies are currently provided to fertilizer companies, but their ultimate beneficiaries are the farmers who benefit from reduced Maximum Retail Prices (MRPs) compared to market rates.
- With the **implementation of the Direct-Benefit Transfer (DBT) system, subsidy payments to these companies will only be made after they have sold fertilizers to farmers through retailers.**
- Under this system, **each retailer is equipped with a point-of-sale (PoS) machine that is connected to the Department of Fertilizers' e-Urvarak DBT portal.**
- To purchase subsidized fertilizers, individuals must provide either their Aadhaar unique identity or Kisan

Credit Card number. Only when the sale is recorded on the e-Urvarak platform can a fertilizer company claim the subsidy.

What are the issues related to Fertiliser Subsidy?

- **Price Imbalance of Fertilizers:** Heavy subsidies on urea and DAP result in significantly lower prices for these fertilizers compared to others. This leads to increased urea and DAP usage, as decontrolled fertilizers have become more expensive.
- **Low Nitrogen Use Efficiency**: It is a prevalent issue in India, particularly in the case of Urea fertilizer. This inefficiency results in the overapplication of Urea, leading to both excessive usage and groundwater contamination.

> - The ideal NPK ratio in India is (N:P:K= 4:2:1).
> - According to the Fertilizer Association of India, the NPK ratio of soils in India changed from (N:P:K= 6.5:2.8:1) in 2020-21 to (N:P:K=7.7:3.1:1) in 2021-222, which is far from the ideal value.

- **Fiscal Health Concerns:** Fertilizer subsidies strain national budgets, especially in agrarian economies, and costs can escalate due to population growth, evolving agricultural methods, and global fertilizer price fluctuations.
- **Import dependence:** The total demand for urea in the country is about 35 million tonnes whereas the domestic production is about 25 million tonnes.

Challenges associated with Subsidies

- **Market distortions:** Subsidies can distort market dynamics by creating artificial demand and supply, leading to overconsumption of subsidized goods or services.
- **Fiscal burden:** Subsidies impose a significant burden on the government's fiscal resources. The cost of subsidies often exceeds the allocated budget, leading to fiscal deficits and increased government debt. This can crowd out spending on critical sectors like education, healthcare, and infrastructure.
- **Lack of data and monitoring:** The government often lacks the data and monitoring systems necessary to effectively implement and manage subsidy programs. This can lead to leakages and corruption, and it can also make it difficult to assess the effectiveness of subsidy programs.
- **Ineffective targeting:** Subsidies are often poorly targeted, meaning that they benefit the wealthy and well-connected more than the poor and vulnerable. This lack of precision in targeting can lead to inefficiencies and inequities.

What are the related initiatives for Fertilisers?

- **PM PRANAM:** It aims to bring down the subsidy burden on chemical fertilisers. The scheme will have no separate budget and will be financed through the "savings of existing fertiliser subsidy" under schemes run by the Department of Fertilizers.

- **Soil Health Card Scheme:** It was launched in 2015 to assist State Governments to issue soil health cards to all farmers in the country.
- **Direct Benefit Transfer (DBT):** Under this scheme, fertilizer businesses receive a 100% subsidy on various fertilizer grades based on the retailer's sale to the beneficiaries.
- **Neem-coated Urea:** The Government of India promotes fertilizer efficiency and has added neem-coated urea to FCO. Over normal urea, neem-coated urea is more effective. This might aid in lowering pollution levels in the air and water.
- **One Nation One Fertiliser Scheme:** Under the scheme, all fertiliser companies, State Trading Entities and Fertiliser Marketing Entities will be required to use a single "Bharat" brand for fertilisers and logo under the Pradhanmantri Bhartiya JanurvarakPariyojna (PMBJP).
- **New Urea Policy 2015:** The New Urea Policy was released in May 2015. The Policy seeks to increase indigenous urea production,promote energy efficiency in urea production, and reduce subsidy burden on the Central government.

Conclusion

- The fertilizer subsidy system plays a vital role in encouraging agricultural productivity in India but it faces challenges related to price and fiscal burden, low nutrient use efficiency, and import dependence.
- The government has introduced numerous schemes to implement sustainable agriculture and subsidy management in the country.

> **UPSC Previous Year Mains Questions:**
> 1. How do subsidies affect the cropping pattern, crop diversity and the economy of farmers? What is the significance of crop insurance, minimum support price and food processing for small and marginal farmers? **(UPSC 2017)**
> 2. In what way could replacement of price subsidy with direct benefit Transfer (DBT) change the scenario of subsidies in India? Discuss. **(UPSC 2015)**
> 3. What are the different types of agriculture subsidies given to farmers at the national and at state levels? Critically, analyse the agricultural subsidy regime with reference to the distortions created by it. **(UPSC 2013)**
> 4. Briefly explain the use of various chemical fertilisers in Indian agriculture. **(UPSC 1992)**

MCQ

Question: With reference to chemical fertilizers in India, consider the following statements: **(UPSC 2020)**

1. At present, the retail price of chemical fertilizers is market-driven and not administered by the Government.
2. Ammonia, which is an input of urea, is produced from natural gas.
3. Sulphur, which is a raw material for phosphoric acid fertilizer, is a by-product of oil refineries.

Which of the statements given above is/are correct?

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

Answer: (b)

Can Universal Basic Income Tackle India's Poverty

Priority: Medium

Primary Source: Down To Earth

Relevance: Welfare schemes for vulnerable sections of the population by the Centre and States and the performance of these schemes; mechanisms, laws, institutions and Bodies constituted for the protection and betterment of these vulnerable sections. Indian Economy and issues relating to planning, mobilization, of resources, growth, development and employment. Inclusive growth and issues arising from it.

Prepp Prelims Booster: Universal Basic Income

Prepp Mains Booster: Opporunities and Challenges Related to the Universal Basic Income

Context

- This article discusses the concept of Universal Basic Income and its significance as a tool for addressing income inequality and unlocking the country's demographic potential.

What is Universal Basic Income?

- The idea of **Universal Basic Income (UBI)** involves beneficiaries receiving a guaranteed income in the form of an unconditional transfer payment on a regular basis.
- **UBI is a regular cash payment made individually to each member of a political community, without conditions such as examining their means and work requirements.**
- In 2022, the **Economic Advisory Council to the Prime Minister recommended the Universal Basic Income (UBI) programme to help close the income gap and ensure an equitable distribution of incomes** in the labor market.
- **Principles of a UBI programme:**
  o Unconditional support
  o Periodic payments as opposed to lump sum transfers
  o Direct cash transfer instead of coupons or cash equivalents
  o Individual beneficiaries rather than households.

What are the pros and cons of a UBI scheme?

Pros:

- **Lowers poverty:** The **Economic Survey 2016-17** revealed that studies from six developing countries showed no significant drop in labor supply for men and women alike following the introduction of a UBI scheme.
  o UBI contributes to **lowering poverty and income inequality** and **enables access to basic needs such as food, health, education, housing, etc** to vulnerable and marginalized groups.
- **Improvements in public health:** The provision of a UBI results in improved physical and mental well-being, sanitation, and nutrition.
  o Stress, anxiety, and depression tied to poverty can be tackled.
- **Efficient system:** A UBI scheme can **streamline existing welfare programs,** thereby reducing administrative costs, and making the welfare system more efficient.
- **Economic stimulus:** The UBI scheme directly puts money in the hands of the beneficiaries.
  o This boosts consumer spending which helps promote local businesses leading to the generation of employment and entrepreneurship opportunities.

Cons:

- **Fiscal Sustainability:** According to critics, the **UBI comes with high costs which could necessitate increased taxes, spending cuts, and debt leading to inflation, distortions in the labor market, and reduced economic growth**.
- **Adverse inspiration:** It could demotivate people belonging to the working-age population, thereby reducing the productivity and efficiency of the economy.
  o This would increase dependency on government support and discourage skill development.
  o However, studies have revealed that an unconditional cash transfer has no negative effects on people's desire to work.
- **Inflationary Pressures:** A fixed income for all the citizens of the country could result in an increase in the prices of most goods and services in the country.
- **Negative behavior:** Cash incentives to the poor may lead them to misuse it for alcohol, drugs, and other anti-social habits.
  o However, a review of data by Nobel laureate Abhijit Banerjee and colleagues found that recipients displayed reduced substance abuse.

Why is a UBI scheme beneficial for India?

- **Diversity of India:** India is a diverse society which means it is nearly **impossible to create a uniform policy to address the diverse and distinct needs of the population.**
  o These policies do not recognize the different needs and are often **narrow and targeted, creating inefficiencies in governance and populist interventions.**

- o For example, a free bus ticket policy will not benefit people belonging to areas without public transport coverage.
- o Similarly, the distribution of sewing machines to empower women does not consider whether employment is the challenge faced by them or whether tailoring is their desired occupation.
- **Universality of cash:** On the other hand, **cash which is the universal medium of exchange can provide each beneficiary with an economic base that will empower them to meet their needs.**
- o A cash-based support in addition to quality and accessible government services will **enhance people's capacity to access better services that are not essential and ensure wider coverage.**
- **Reduced government workload:** The **universality and unconditionality** of the scheme means that the government does not need to spend time and resources in assessing the eligibility of the potential beneficiaries.
- o This also **reduces the paperwork requirements of potential beneficiaries, who are often less literate.**
- o In countries like India where awareness and documentation are significant challenges, especially in rural areas, a UBI scheme ensures robust coverage.
- **Increased resilience and advancement:** A basic income will also enable beneficiaries to **survive crises such as health shocks, employment termination, natural disasters, deaths, etc which expose the poor to extreme poverty, exploitation, and vicious debt traps.**
- o Cash transfer and basic income programs allow beneficiaries to **invest in better housing, healthcare, education, and savings, thereby reducing their reliance on credit and increasing their contribution to the economy**.
- o Women have been able to use the benefits to negotiate themselves out of exploitative daily wage work and invest in small businesses.
- **Addressing challenges:** People around the world are increasingly at risk due to challenges such as automation, unemployment, climate change, pandemics, declining female labor force participation, and growing inequality.
- o In such a situation, UBI and improved government services will help **ensure the delivery of benefits to the poorest and weakest sections, giving them the freedom to pursue constructive opportunities.**

Case Studies

SEWA Pilot

- A pilot program conducted by **SEWA in Delhi and Madhya Pradesh** provided beneficiaries ₹1,000 a month.

Findings:

- 64% of beneficiaries spent the benefits only on food.
- School enrollment increased from 69.6 to 70.6%.

- Usage of cleaner fuels rose from 68 to 84%.
- 73% of the beneficiaries cleared loans and debts
- 27 % of women thought access to direct money enabled more control over household expenditure.
- In Madhya Pradesh, the experiment covered 6,000 people from 12 villages including one inhabited by tribal communities.

Findings:

- Adults and children were provided ₹300 and ₹150 per month respectively for 17 months.
- In 2013, Ghoda Khurd in Indore district found that about 14.3% of the households spent the money to build toilets while others mainly spent on access to private water resources for drinking purposes.
- 14.5% of beneficiaries in Ghoda Khurd improved access to electricity while food expenditure rose from 52% to 78% of income.
- A 2017 study found a drop in liquor intake, particularly in Ghoda Khurd, and a decline in child labor in agriculture by 71%.
- Change of energy sources: 24.3% of beneficiaries in non-tribal villages and 16% of those in the tribal village used the money to change the source of energy used by them.

WorkFREE pilot

- The **WorkFREE pilot project is implemented by the University of Bath, UK; Montfort Social Institute, Hyderabad; and India Network for Basic Income**.
- o It has been funded by the **European Research Council.**
- It supports around 1,250 residents in five slums of Hyderabad by providing adults with ₹1,000 and children ₹500 a month for 18 months.
- o The beneficiary communities have been chosen from those involved in work such as garbage collection, domestic work, or roadside hawking, and those from Scheduled Castes and those without any tenancy rights.

Findings:

- An increase in health insurance coverage among participants.
- Recipients used the money to expand economic activities or pay for emergency needs instead of relying on debts.
- A survey conducted in 2023 found that 66% of beneficiary households used the cash to buy food, fuel, clothes, and to pay utility bills.
- 36% spent the money for education fees while 40 per cent added it to their savings and 23 per cent repaid debts.
- It was also used to invest in new businesses, assets, and vehicles.
- 43% of households spent cash on medicines, diagnostic tests, and doctor visits.

Conclusion

- Universal Basic Income holds the potential to address income inequality and poverty in India by providing a regular, unconditional income to its citizens.
- It offers numerous advantages including improved public health and economic stimulus but critics have raised concerns such as fiscal sustainability and negative incentives.
- It requires urgent attention from necessary authorities due to it being a viable solution to enhance the well-being and resilience of the population.

UPSC Mains Practice Questions

Q.1) Development and welfare schemes for the vulnerable, by its nature, are discriminatory in approach." Do you agree? Give reasons for your answer. (UPSC GS2 2023)

Q.2) Economic growth in the recent past has been led by an increase in labor activity." Explain this statement. Suggest the growth pattern that will lead to the creation of more jobs without compromising labor productivity. (UPSC GS2 2022)

MCQs

Question: India has experienced persistent and high food inflation in
the recent past. What could be the reasons?
1.   Due to a gradual switchover to the cultivation of commercial crops, the area under the cultivation of food grains has steadily decreased in the last five years by about 30%.
2.   As a consequence of increasing incomes, the consumption patterns of the people have undergone a significant change.
3. The food supply chain has structural constraints. (UPSC CSE 2011)
Which of the statements given above are correct?
a.   1 and 2 only
b.   2 and 3 only
c.   1 and 3 only
d.   1, 2 and 3
Answer: (b)

Question: Consider the following statements: Other things remaining unchanged, market demand for a good might increase if
1.   Price of its substitute increases
2.   Price of its complement increases
3.   The good is an inferior good and the income of the consumers increases
4.   Its price falls
Which of the above statements is/are correct? (UPSC CSE 2022)
a.   1 and 4 only
b.   2, 3 and 4
c.   1, 3 and 4
d.   1, 2 and 3
Answer: (a)

An Unfolding Economic Tragedy

Priority: Medium

Primary Source: The Hindu

Relevance: Indian Economy, Issues relating to Planning, Mobilization of Resources, Growth, Development and Employment

Prepp Prelims Booster: GDP

Prepp Mains Booster: Challenges Related To India's GDP

Context

- This article presents a critical analysis of India's reported economic growth, especially in terms of GDP, and challenges the notion that high GDP growth equates to economic success. It argues that GDP is a flawed measure of economic welfare because it fails to account for inequality, job scarcity, poor public services, and environmental damage.
- India's growth, often celebrated as the fastest among major economies, is not a significant achievement given its status as one of the poorest of the major economies.

What is Gross Domestic Product (GDP)?

- Gross Domestic Product (GDP) is a monetary measure that represents the market value of all final goods and services produced within a country during a specific period, typically a year or a quarter.
- It is widely used as an indicator of the economic performance of a country.
- GDP can be calculated using three different approaches:
- **Production (or Output or Value Added) Approach:** This method calculates the value of output produced by industries within the country.
- **Income Approach:** This method sums up all the incomes earned by individuals and businesses in the production of goods and services. The main components of income approach are wages, rents, interest, and profits.
- **Expenditure Approach:** Often considered the most common approach, this method calculates the total expenditure incurred by all entities on goods and services within a country's boundary.
- The major components of the expenditure approach are consumption (C), investment (I), government spending (G), and net exports (exports minus imports, or X - M).
- GDP is a critical economic metric but, as discussed, it does not encompass all aspects of the well-being of a society or the sustainability of economic progress.
- Therefore, it is often used in conjunction with other indicators to provide a more complete picture of economic health and societal progress.

GDP as a Misleading Metric

- GDP, or Gross Domestic Product, is the total monetary value of all finished goods and services produced within a country's borders in a specific time period. It is widely used as an indicator of economic performance.

- However, its role as a metric for national welfare and economic health can be misleading for several reasons:
  - o **Does Not Account for Inequality**: GDP measures total output without considering how it's distributed among the population. A high GDP growth rate can coexist with increasing income inequality, where most wealth accrues to a small segment of society while the majority sees little benefit.
  - o **Ignores Non-Market Transactions**: GDP does not include non-market transactions like household labor and volunteer work, which can be substantial and contribute to overall welfare.
  - o **Neglects Quality of Life**: GDP does not capture the quality of life or happiness of citizens. Factors like job security, work-life balance, environmental quality, and leisure time are not reflected in GDP figures.
  - o **Overlooks Environmental Costs**: GDP can increase in the short term through activities that harm the environment. It doesn't subtract the cost of environmental degradation or the depletion of natural resources, which can lead to long-term economic and social costs.
  - o **Not a Measure of Sustainability**: GDP does not indicate whether the current rate of growth is sustainable in the long term. An economy might be growing due to resource depletion or overconsumption, which are not sustainable practices.
  - o **Ignores Social and Health Costs**: Societal issues such as health epidemics, drug addiction, and crime might actually increase GDP because of related healthcare and security services, even though they represent a decrease in societal wellbeing.
  - o **Expenditure versus Production**: If GDP is calculated based on production and not actual expenditure, it might not accurately reflect the economy's health.
  - o **Focus on Quantity Over Quality**: GDP focuses on the quantity of goods and services produced, not the quality. Improvements in quality of life that don't increase output (like better product durability or free digital services) may not be reflected in GDP.

Pre-COVID Economic Trends vs Post-COVID Economic Fluctuations – A Comparison

Pre-COVID Economic Trends	Post-COVID Economic Fluctuations
• **Robust Growth**: In the mid-2000s, India experienced a high annual GDP growth rate of around 9%, driven in part by strong world trade growth.	• **Sharp Contraction**: The immediate aftermath of the COVID-19 outbreak saw a sharp contraction of the Indian economy due to lockdowns and reduced global demand. • **Recovery and Volatility**: Following the initial shock, the economy experienced a phase of recovery, albeit with significant volatility and what

- **Financial Crisis Impact**: The global financial crisis of 2007-08 led to a slowdown, with growth rates declining to around 6% as world trade growth decelerated.
- **Data Revisions and Policy Measures**: A notable data revision in 2015 temporarily boosted reported GDP growth rates. However, structural issues like demonetization and a problematic rollout of GST (Goods and Services Tax) caused further economic slowdown.
- **Investment Slowdown**: There was a clear trend of declining private corporate investment, indicating that both domestic and international confidence was waning.
- Stability Over Growth: **Pre-COVID, the Indian economy was characterized by a relative stability in growth rates, albeit with a downward trend**

some describe as a "dead cat bounce" indicating a temporary recovery in a generally downward trend.
- **Lowered Investment**: Private corporate investment fell further post-COVID, reflecting ongoing demand weakness.
- **Consumption and Savings**: There were notable shifts in consumer behaviour and savings rates, with the government initiating measures like a **free grain program** to support consumption amid shrinking household savings.
- **Export Challenges**: With global trade growth stunted and an overvalued rupee, Indian exports faced new challenges, contributing to economic fluctuations.
- **Pandemic Relief Measures**: The government's pandemic-related economic relief measures have been substantial, but the long-term effectiveness of these initiatives remains under scrutiny.
- **Uncertain Growth Trajectory:** While pre-COVID trends showed a steady if declining growth, post-COVID economic conditions have been far more uncertain, with growth estimates being more modest and varying widely depending on the time frame and economic indicators used.

from the highs of the mid-2000s.	

Why is India's Growth Not a Significant Achievement?

- **Catch-Up Effect**: Economies that start from a lower base have a greater potential for rapid growth—a phenomenon known as the catch-up effect. Since India is starting from a point of lower absolute wealth, it naturally has more room to grow quickly compared to advanced economies that are already operating at a higher baseline.
- **Demographics**: India has a large, young population entering the workforce, which should theoretically drive higher growth rates simply through increased production and consumption. Thus, high growth rates are expected just to absorb the new workers and maintain employment levels, not necessarily indicating an improvement in overall economic conditions.
- **Structural Reforms and Investment**: Fast growth in developing countries is often driven by structural reforms, industrialization, and investment in infrastructure. These investments can yield high returns when starting from a low base, but they do not automatically translate into widespread prosperity.
- **Purchasing Power Parity and Inequality**: High GDP growth rates do not necessarily equate to high per capita income growth or improvements in the average living standards. India's per capita income remains low compared to developed economies, and its benefits are often unevenly distributed, exacerbating inequality.
- **Sustainability of Growth**: The quality and sustainability of growth are crucial. If growth is driven by debt-fueled consumption or exploitation of natural resources without regard for the environment, it may not be sustainable in the long term.
- **Comparative Advantage**: As a developing economy, India has a comparative advantage in labour-intensive industries, which can drive exports and growth. However, this does not reflect the overall technological or productivity advancement required for sustained economic improvement.
- **Unemployment and Underemployment**: High GDP growth must be accompanied by the creation of jobs that offer decent wages and conditions. In many cases, fast-growing economies like India face challenges of underemployment and job scarcity, indicating that the economy is not growing fast enough to provide high-quality jobs for its population.
- **Human Development Indicators**: Economic growth should lead to improvements in healthcare, education, and life expectancy, among other human development indicators. India's growth has not always correlated with commensurate improvements in these areas.

Why Do We Need to Bolster Demand?

- **Underemployment and Job Scarcity:** High levels of GDP growth can mask the underlying issues of job scarcity and underemployment. If people don't have

jobs or are underemployed, they lack the income necessary to purchase goods and services, which in turn stifles economic growth.
- **Inequality:** GDP growth often does not reflect how wealth and income are distributed across a society. If the majority of the population lacks the financial means, the demand will be constrained, and economic growth will not benefit the population at large.
- **Sustainable Investment:** When private corporate investment is declining, it's often a sign that businesses anticipate weak demand. Without confidence in future demand, businesses are less likely to invest in new projects or expand operations, leading to a cycle of reduced economic activity.
- **Consumer Spending and Savings:** Households have reduced their savings rate and are increasingly incurring debt, indicating that they are struggling to maintain consumption. If this trend continues, it could lead to a further reduction in demand and possibly trigger a financial crisis among consumers.
- **Export Limitations:** With limited growth in world trade and an overvalued currency, there is a cap on how much exports can contribute to demand. Therefore, domestic demand becomes even more crucial for sustaining economic growth.
- **Fiscal Policy Impact:** Reliance on **indirect taxes**, which disproportionately affect lower-income individuals, can reduce disposable income and thus further constrain demand.

Measures

Short-term Measures to Stimulate Demand

- **Direct Cash Transfers:** Implementing targeted cash transfer programs to the poorest households can quickly increase purchasing power and stimulate demand.
- **Public Employment Schemes:** Expanding public employment programs can provide immediate job opportunities and income support, increasing spending and demand.
- **Reduction in Indirect Taxes:** Temporarily lowering GST rates on essential goods and services can boost consumption by making items more affordable.
- **Credit Access:** Easing credit for small and medium-sized enterprises (SMEs) and lower-income groups can help boost spending and entrepreneurial activity.
- **Social Safety Nets:** Strengthening social safety nets, including food security, health insurance, and unemployment benefits, can provide a cushion for the vulnerable population, ensuring that they can still participate in the economy.

Long-term Structural Reforms

- **Job Creation:** Focusing on sectors with high employment elasticity, like manufacturing, construction, and services, can create more jobs and thus, increase income and demand.

- **Skill Development:** Investing in education and vocational training can improve the employability of the workforce, leading to better job opportunities and higher incomes.
- **Infrastructure Development:** Improving urban infrastructure and connectivity can lead to more efficient cities and unlock economic potential across regions.
- **Agricultural Reforms:** Modernizing the agricultural sector through better infrastructure, market access, and technology can increase farmers' incomes and rural demand.
- **Judicial and Administrative Reforms:** Streamlining the judicial system and cutting red tape can improve the ease of doing business, attracting more investment and stimulating economic activity.
- **Environmental Sustainability:** Focusing on green technologies and sustainable practices can create new industries and jobs, while also ensuring long-term ecological balance.
- **Healthcare Investment:** Strengthening the healthcare system can reduce the economic burden of poor health on families and increase their spending capacity.
- **Income Redistribution Policies:** Implementing progressive taxation and increasing public spending on welfare programs can help redistribute income more equitably and increase overall demand.
- **Innovation and Research:** Encouraging innovation and research through subsidies and grants can create high-value industries and jobs.
- **Market Diversification:** Expanding trade agreements and finding new markets for exports can reduce dependence on slow-growing global trade.
- **Strengthening Financial Systems:** Ensuring robust financial oversight and support for responsible lending can help maintain consumer credit without risking high levels of default.

Conclusion

The celebrated GDP growth narrative is flawed, not addressing deeper economic challenges. Realistic GDP growth forecast stands at 3%-4% in the medium term. Persistent mismatch between the high-growth narrative and actual economic conditions risks potential tragedy.

UPSC Previous Year Practice Question

Q. Explain the difference between computing methodology of India's gross domestic product (GDP) before the year 2015 and after the year 2015. **(2021)**

Q. Define potential GDP and explain its determinants. What are the factors that have been inhibiting India from realizing its potential GDP? **(2020)**

Q. Do you agree with the view that steady GDP growth and low inflation have left the Indian economy in good shape? Give reasons in support of your arguments. **(2019)**

MCQs

Q. Consider the following statements: (UPSC 2023)

Statement-I: In the post-pandemic recent past, many Central Banks worldwide had carried out interest rate hikes.

Statement-II: Central Banks generally assume that they have the ability to counteract the rising consumer prices via monetary policy means.

Which one of the following is correct in respect of the above statements?

(a) Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
(b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
(c) Statement-I is correct but Statement-II is· incorrect
(d) Statement-I is incorrect but Statement-II is correct

Answer: (a)

Q. Increase in absolute and per capita real GNP do not connote a higher level of economic development, if (UPSC 2018)

(a) industrial output fails to keep pace with agricultural output.
(b) agricultural output fails to keep pace with industrial output.
(c) poverty and unemployment increase.
(d) imports grow faster than exports.

Answer: (c)

Q. Consider the following statements: (UPSC 2017)

(1) Tax revenue as a percent of GDP of India has steadily increased in the last decade.
(2) Fiscal deficit as a percent of GDP of India has steadily increased in the last decade.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

Answer: (d)

Education (GS Paper Prelims) & GS Paper II (Main)
Academic Freedom in India's Universities

Priority: Low

Primary Source: The Hindu

Relevance: Issues relating to development of Education
Prepp Prelims Booster: Constitutional & Legal framework for academic freedom in India
Prepp Mains Booster: Academic Freedom, its Legislative Framework and Challenges

Context

- Recent weeks have seen a heated debate on academic freedom in India's universities. In this article we will look into the meaning of Academic Freedom; Scope of academic freedom; Legal framework of Education in India and the need of such academic freedom.

What is the meaning of Academic freedom?

- **Academic freedom** is the liberty of members of the academic community, individually or collectively, **to pursue, develop and transmit knowledge and ideas, through research, teaching, study, discussion, documentation, production, creation and / or writing.**
- According to Academic Freedom Index, majorly it includes
1. **Freedom to research and teach**
2. **Freedom of academic exchange and dissemination**
3. **Institutional autonomy**
4. **Campus integrity**
5. **Freedom of academic and cultural expression**

Why is academic freedom necessary?

- Academic freedom is important because it allows students, teachers, and researchers to study a variety of topics, share knowledge among them, and engage in debate without any fear of censorship or retaliation. It is important for promoting an intellectual culture. It helps the researchers to pursue the truth.
- It helps to think out of the box and create new innovative ideas.
- It helps students to discuss their opinion openly without any fear of to be judged or punished.
- It helps the management to make decisions which are favourable to them.
- It will lead to a practical based knowledge approach rather than a books centric approach.
- It helps to raise funds other than grants and aid, so that the institution can flourish well.

Legal framework for academic freedom in India

- **Indian universities fall within the definition of 'the state**' in **Article 12** of the Constitution and, therefore; the entire chapter on the fundamental rights applies to them in any event.
- Under A**rticle 19(1)(a)**, the Indian Constitution guarantees to all citizens "freedom of speech and expression,"
- All types of academic literature, speeches given, digital lectures etc. fall under the ambit of Article 19.
- **Articles 14, 15, and 16** which provide for equality, prohibit discrimination and assure equality of opportunity in public employment.
- It means all education institutions are equally protected under the law of the country; any one can take admission, participate in activities, conduct a speech in any university according to set rules but without discrimination.
- **Promotion of academic freedom as a fundamental duty**
- **Article 51(A)(h)**to 'develop the scientific temper, humanism and the spirit of enquiry and reform'
- **Article 51(A)(j)**to 'strive towards excellence in all spheres of individual and collective activity so that the nation constantly rises to higher levels of endeavor and achievement.'

- **International Convention on Economic, Social and Cultural Rights**
- India has signed and ratified the International Convention on Economic, Social and Cultural Rights.
- **Articles 13 and 15** of the same are especially relevant to academic freedom in higher education.

Challenges to Academic Freedom in India

- **Restrictions on and interventions in institutional autonomy:**
- Different spheres of institutional autonomy face restrictions in terms of the selection of university leaders or vice-chancellors, selection of faculty, selection of students, framing of courses, and several other aspects of the university.
- **Political Interference:**
- Most universities in the country are subjected to unsolicited interference from governments in both academic and non-academic issues. It is common knowledge by now that a majority of appointments, especially to top-ranking posts like that of vice-chancellors, pro vice-chancellors and registrars, have been highly politicised.
- **Corrupt Practices:**
- Political appointments not only choke academic and creative freedom, but also lead to corrupt practices, including those in licensing and accreditation.
- **Bureaucratisation of Universities:**
- At present, many educational institutions and regulatory bodies, both at the Central and State levels, are headed by bureaucrats.

Academic Freedom Index

- It has been published by **Global Public Policy Institute** as a part of a global time-series dataset (1900-2019) in close cooperation with Friedrich-Alexander University Erlangen-Nürnberg, Scholars at Risk and the V-Dem Institute.
- It compares levels of academic freedom worldwide and enhances the understanding of its curtailments.
- **The AFI used eight components to evaluate the scores**: freedom to research and teach, freedom of academic exchange and dissemination, institutional autonomy, campus integrity, freedom of academic and cultural expression, constitutional protection of academic freedom, international legal commitment to academic freedom under the International Covenant on Economic, Social and Cultural Rights, and existence of universities.
- **Top Performers: Uruguay and Portugal** top the AFI, with scores of 0.971 each, followed closely by **Latvia** (0.964) and **Germany** (0.960).

India's performance on the index.
- India with a score of 0.352

o   In the last five years, the AFI of India has dipped by 0.1 points.

Conclusion

Academic freedom in India is crucial for fostering intellectual growth and innovation. Despite a legal framework supporting it, challenges like political interference and corruption exist. India's Academic Freedom Index score has declined, highlighting the need for ongoing efforts to protect and enhance academic freedom in the country's universities.

Agriculture(GS Paper Prelims) & GS Paper III (Main)

Cotton Corporation of India Launches "Bale Identification and Traceability System"

Priority: Low
Primary Source: The Hindu
Relevance: Transport and marketing of agricultural produce – issues and related constraints, E-technology in the aid of farmers
Prepp Prelims Booster: Cotton
Prepp Mains Booster: Cotton Cultivation in India and Associated Challenges

Context:

- The Indian Ministry of Textiles commemorated **World Cotton Day 2023** by convening a conference dedicated to improving the quality and productivity of cotton.
- During the event, the '**Bale Identification and Traceability System**' was launched, alongside the inauguration of the **Kasturi Cotton initiative**.
- The forthcoming **81st session of the ICAC** was announced, with officials emphasizing India's significance in the worldwide cotton sector.

World Cotton Day

- World Cotton Day is celebrated on **October 7th**.
- The significance of World Cotton Day lies in its recognition of the importance of cotton as a global commodity.
- It was first established by the **World Trade Organization (WTO) in 2019** at the initiative of the **Cotton-4 countries (Benin, Burkina Faso, Chad, and Mali)** to reflect the importance of cotton as a global commodity produced in over 75 countries on five continents and to highlight its central role in job creation, economic development, and livelihoods.

Key Highlights of the Conference

- **Theme Focus**: The theme was "Enhancing Quality & Productivity of Indian Cotton through Policy, Innovation, & Technology Upgradation."
- **Sustainable Practices**: The conference emphasized sustainable farming methods across the cotton value chain, from farming to fashion and international trade.
- **Innovative Systems Introduced**:

- **Bale Identification and Traceability System (BITS)**: Leveraging Blockchain Technology to ensure quality and origin traceability for cotton bales via QR codes.
- **Kasturi Cotton Program**: A premium quality cotton initiative with traceability, certified by the Ministry of Textiles and managed by TEXPROCIL in collaboration with CCI.
- **International Collaboration**: Announcement of the 81st Plenary meeting of the International Cotton Advisory Committee (ICAC) to be held in Mumbai with a theme promoting local innovation for global prosperity.
- **Technological and Innovation Exhibition**:
- Display of new technologies aimed at boosting cotton productivity.
- Presentation of natural colored cotton products, ginning and processing technologies, best farm practices, sustainable fashion, and advanced agricultural tools like remote sensing and satellite imagery.

Key Facts About Cotton

- Cotton is a **Kharif Crop** that matures in **6 to 8 months**.
- It is drought-resistant, making it suitable for arid climates.
- It occupies **2.1%** of the world's arable land.
- Cotton meets **27%** of the world's textile needs.
- The ideal temperature for cotton cultivation is between **21–30°C**.
- Cotton requires around **50–100 cm of rainfall**.
- The preferred soil type is well-drained **black cotton soil (Regur Soil),** found in regions like the Deccan Plateau.
- Cotton products include fiber, oil, and animal feed.
- The leading cotton-producing countries are **India, China, and the US.**
- In India, the top cotton-producing states are **Gujarat, Maharashtra, Telangana, Andhra Pradesh, and Rajasthan.**
- There are four cultivated species of cotton:

- Gossypium hirsutum – upland cotton, native to Central America, Mexico, the Caribbean
- Gossypium barbadense – known as extra-long staple cotton, native to tropical South America
- Gossypium arboreum – tree cotton, native to India and Pakistan
- Gossypium herbaceum – Levant cotton, native to southern Africa and the Arabian Peninsula

- Hybrid Cotton is created by crossing two different genetic parent strains.
- **Bt Cotton** is a genetically modified variety, engineered to be pest-resistant.

Major Initiatives Launched
1) Bale Identification and Traceability System (BITS)

- The Bale Identification and Traceability System (BITS) is an initiative launched by the Cotton Corporation of India (CCI) to enhance the transparency and traceability of cotton bales.
- BITS employs blockchain, a secure and immutable digital ledger system, to record and maintain the data associated with each cotton bale.
- This technology ensures that the information is reliable and tamper-evident.
- Each cotton bale under the BITS gets a unique Quick Response (QR) code.
- The QR code can be scanned using a digital device to retrieve detailed information about the bale.
- The QR code contains data that allows stakeholders to track the original source of the cotton, including the farm where it was grown.
- Along with the origin, the system provides insights into the processing stages the cotton bale has undergone, including the factories where it was processed, as well as storage details.
- BITS includes timestamps and quality-related information about each bale, enabling buyers to assess the cotton's quality and variety accurately.
- By offering a full history and current details of the cotton bales, BITS ensures that both Indian and international buyers can make informed purchasing decisions based on credible data.
- The implementation of BITS is a significant step towards modernizing the cotton supply chain in India, aiming to enhance the marketability and credibility of Indian cotton on the global stage by providing a robust system for quality assurance and supply chain oversight.

2) Kasturi Cotton Program
- The Kasturi Cotton Program is an initiative introduced by the Ministry of Textiles of India, focusing on establishing and promoting a premium quality certified cotton brand from India.
- The program aims to produce cotton of certified premium quality, ensuring high standards for both the domestic and international markets.
- A significant feature of Kasturi Cotton is its traceability. This ensures that every stakeholder in the value chain, from the farmer to the fashion retailer, can track the journey of the cotton.
- Under this program, ginners across India are authorized and equipped to produce Kasturi Cotton, provided they follow certain quality protocols.
- This helps in maintaining the consistency and reliability of the cotton produced under this label.
- The program's implementation is overseen by **TEXPROCIL (The Cotton Textiles Export Promotion Council)**, in collaboration with the **Cotton Corporation of India (CCI)**, acting on behalf of the Ministry of Textiles.

- By branding and ensuring the quality of Indian cotton, the Kasturi Cotton Program aims to enhance the marketability of Indian cotton globally.
- The initiative empowers ginners across the country to align with quality protocols, thus elevating the overall standard of Indian cotton.
- The Kasturi Cotton Program represents a concerted effort by the Indian government to bolster the reputation of Indian cotton and to make it a preferred choice in the global cotton market, providing assurance of quality and origin to buyers and consumers worldwide.

3) Event Brochure for the 81st Plenary Meeting of the International Cotton Advisory Committee (ICAC)
- The 81st Plenary Meeting of the International Cotton Advisory Committee (ICAC) refers to the annual conference organized by the ICAC, which is an association that serves as a global forum for the cotton and textile industries to address issues and share knowledge.
- The event is slated to take place in Mumbai, India, from December 2nd to 5th, 2023.
- The theme for this plenary meeting is **"Cotton Value Chain: Local Innovations for Global Prosperity."**
- The meeting expects to bring together over 400 delegates and observers from more than 27 countries, making it a significant international event in the cotton industry.
- The Ministry of Textiles of India, in conjunction with organizations like the Cotton Corporation of India (CCI), the Cotton Association of India (CAI), and the Confederation of Indian Textile Industry (CITI), is involved in hosting this important gathering.
- Such meetings are generally designed to facilitate discussions on current issues facing the cotton industry, share best practices, introduce new technologies, and promote international cooperation.

Cotton Corporation of India (CCI)
- The Cotton Corporation of India (CCI) is a public sector agency in India **under the Ministry of Textiles, established in 1970 under the Companies Act 1956.**
- The organization plays a pivotal role in the cotton market with multiple functions, working to support and advance India's cotton sector, especially in support of cotton farmers.
- CCI plays a crucial role in regulating the cotton market in India.
- It supports farmers by ensuring they receive a fair price for their produce.
- CCI also helps in keeping the cotton industry competitive both nationally and internationally.

International Cotton Advisory Committee (ICAC)
- The International Cotton Advisory Committee (ICAC) is an association **established in 1939** that serves as an international body for cotton-related matters.

- Its membership includes governments of cotton-producing, consuming, and trading countries.
- The core focus of ICAC is to maintain international cooperation in cotton affairs and serve as a forum for stakeholder discussion and policy development.
- ICAC's significance lies in its ability to offer a global perspective on the cotton industry's challenges and opportunities and its efforts to facilitate international cooperation to support the sustainability and profitability of the cotton sector worldwide.

Upland cotton (*Gossypium hirsutum*)

Upland cotton has relatively shorter fiber, a high yield and is easy to grow, meaning it's the type of cotton you'll see most often in the shops; it's said to form 90% of the world's cotton production. It's native to South and Central America.

Egyptian cotton (*Gossypium barbadense*)

Egyptian cotton has longer, silkier strands than most types of cotton. It's soft, fine and durable, which gives it a reputation for quality, but it's harder to produce in large quantities than upland cotton. Although it's often called Egyptian cotton, its origins lie in South America.

There's also Indian cotton (*Gossypium arboreum*), native to India and Pakistan, and Levant cotton (*Gossypium herbaceum*), native to Africa and the Arabian Peninsula. These each form less than 2% of the cotton market,

Conclusion

The event concluded by reaffirming the Ministry of Textiles' dedication to fostering innovation, sustainability and growth in the Indian cotton sector. Emphasis will be given on collaborative efforts with ministries, industry stakeholders, and international partners for the development of the cotton textile industry.

MCQs

Q. Which of the following activities constitute real sector in the economy? (UPSC 2022)

1. Farmers harvesting their crops
2. Textile mills converting raw cotton into fabrics
3. A commercial bank lending money to a trading company
4. A corporate body issuing Rupee Denominated Bonds overseas

Select the correct code from below:

(a) 1 and 2 only
(b) 2, 3 and 4 only
(c) 1, 3 and 4 only
(d) 1, 2, 3 and 4

Answer: (a)

Q. The black cotton soil of India has been formed due to the weathering of (UPSC 2021)

(a) Brown forest soil
(b) Fissure volcanic rock
(c) Granite and schist

(d) Shale and limestone

Answer: (b)

Q. "The crop is subtropical in nature. A hard frost is injurious to it. It requires at least 210 frost free days and 50 to 100 centimeters of rainfall for its growth. A light well-drained soil capable of retaining moisture is ideally suited for the cultivation of the crop." Which one of the following is that crop? (UPSC 2020)

(a) Cotton
(b) Jute
(c) Sugarcane
(d) Tea

Answer: (a)

Q. Kalamkari painting refers to: (UPSC 2015)

a) a hand-painted cotton textile in South India
b) a handmade drawing on bamboo handicrafts in North-East India
c) a block-painted woollen cloth in Western Himalayan region of India
d) a hand-painted decorative silk cloth in North-Western India

Answer: (a)

Kerala Village Bets Big On Mushroom Coffee Brand

Priority: Low

Primary Source: The Hindu

Relevance: Agriculture

Prepp Prelims Booster: Mushroom coffee

Prepp Mains Booster: Mushroom coffee, its Significance, and Associated Challenges

Context

- **"La Bae" unique mushroom coffee brand was recently launched by** Lalu Thomas, an entrepreneur from rural Thalavoor in Kerala with the support of the Krishi Vigyan Kendra.
- **Mushroom coffee recently has emerged as a fresh and enticing option,** captivating a caffeine-loving generation seeking a seemingly healthier alternative.

About La Bae's Mushroom Coffee

- **Organic and Healthy Product:** La Bae's mushroom coffee is promoted as an organic product rich in antioxidants. It is targeted at customers who seek to improve their diet quality and maintain a healthy lifestyle. The product is free from fillers, preservatives, and artificial additives.
  - La Bae mushroom coffee is 70% mushroom and 30% coffee.
- **Mushroom Varieties:** La Bae uses a variety of mushrooms, including **button, oyster, milky, lion's mane, and turkey tail,** along with organic arabica coffee beans from Wayanad to create its mushroom coffee.

- o Each mushroom type is selected for its specific health benefits, such as cognitive enhancement, vitamin D content, and bone health.
- **Local Support:** The success of La Bae has led to the Thalavoor panchayat's initiation of the **"Koon Gramam" project.**
- o This project aims to extend mushroom cultivation in the area and has started training approximately 100 farmers in mushroom cultivation.
- o The local body has allocated funds for the project, with a focus on empowering women in the community.

What is Mushroom Coffee?
- Mushroom coffee is simply coffee that has been infused with mushroom extracts. The most **common types of mushrooms used in mushroom coffee are chaga, reishi, lion's mane, and cordyceps.**
- These mushrooms are all known for their adaptogenic properties, which means that they can help the body to adapt to and overcome stress.
- Mushroom coffee is **gaining popularity due to its potential benefits, such as improved cognitive function**, reduced anxiety, improved immunity, and jitter-free energy.
- A **cup of mushroom coffee contains about half the amount of caffeine than in a regular cup** of coffee.
- **Global market size of mushroom coffee**: In 2022, the global mushroom coffee market was valued at USD 2.71 billion and is expected to reach USD 4.12 billion by 2030, exhibiting a 5.5% compound annual growth rate (CAGR) during the forecast period spanning from 2023 to 2030.

Origin of Mushroom Coffee
- Mushroom coffee's origins **can be traced back to the scarcity of coffee during World War II in the 1940s**, when coffee was one of the few goods to face acute shortages across Europe.
- With coffee shortages plaguing the continent, **Finland introduced an alternative in the form of chaga mushroom coffee.**
- o This variety of fungi grows on the back of birch trees in cold terrains like Northern Europe, Korea, Siberia, Russia, Northern Canada, and Alaska.

- It has traditionally been **used in these cultures and other parts of Asia as an immunity booster.**

How will the production of mushroom coffee benefit farmers?
- **Diversification of Income:** Mushroom coffee cultivation provides farmers with an opportunity to diversify their sources of income. Many rural areas rely on traditional crops, and by introducing a unique product like mushroom coffee, farmers can reduce their dependence on a single crop and mitigate the risks associated with crop failure.
- **Improved Profit Margins:** Mushroom coffee, being a niche product, can often command higher prices in the market. This can lead to improved profit margins for farmers, which is especially important for those operating in areas with limited access to markets and resources.
- **Easier and Sustainable Farming:** Mushroom cultivation is generally considered easier compared to traditional crops. It requires less land, and the cultivation process is not as labor-intensive.
- **Local Economic Development:** The success of mushroom coffee cultivation can lead to the development of a local industry and supply chain. This can create jobs and opportunities for other businesses in the area, including packaging, transportation, and marketing.
- **Market Opportunities:** Mushroom coffee, due to its distinctive health advantages and organic characteristics, can cater to a specific requirement of consumers who prioritize premium, health-focused products.

Challenges related to Mushroom Coffee Production
- **Limited Availability of Raw Materials:** Mushroom coffee is made by infusing coffee with mushroom extracts. However, the mushrooms used to make these extracts are not widely cultivated. This can lead to supply shortages and price fluctuations.
- **Climate and Environmental Conditions:** Mushroom varieties used in coffee cultivation may have specific temperature and humidity requirements. Maintaining these conditions can be challenging, especially in areas with extreme climate variations.
- **Certifications and Compliance:** To target certain markets, especially in organic and health-conscious segments, obtaining relevant certifications and complying with quality and safety standards can be complex and costly.
- **Perishability of Mushrooms:** Mushrooms are a perishable food, so they must be used quickly once they are harvested. This can be a challenge for producers who are trying to keep up with demand.
- **Competition from Other Coffee Products:** Mushroom coffee faces competition from other coffee products, such as regular coffee and flavored coffees. Producers

must work to differentiate their product and convince consumers that it is worth the extra cost.

About Coffee Cultivation in India
- The coffee plant is a member of the Rubiaceae family taxonomically. It is a shrub with evergreen leaves.
- **Climatic conditions required for coffee production:**
  o It requires a hot and humid climate for its growth.
  o Temperatures ranging between 15°C and 28 °C
  o **Rainfall:** 150 to 250 cm.
  o **Soil:** Well-drained, loamy soil containing a good deal of humus and minerals like iron and calcium are ideal for coffee cultivation.
  o It is generally grown under shady trees.
  o Dry weather is necessary at the time of ripening of the berries.
  o It is grown on hill slopes at elevations from 600 to 1,600 metres above sea level.
- In India coffee is largely cultivated in Karnataka, Kerala, Tamil Nadu, Andhra Pradesh and Odisha, among which, Karnataka produces the most with over 70% of the total output.

MCQ
Question: Though coffee and tea both are cultivated on hill slopes, there is some difference between them regarding their cultivation. In this context, consider the following statements: **(UPSC 2010)**
1. Coffee plants require a hot and humid climate of tropical areas whereas tea can be cultivated in both tropical and subtropical areas.
2. Coffee is propagated by seeds but tea is propagated by stem cuttings only.

Which of the statements given above is/are correct?
a. 1 only
b. 2 only
c. Both 1 and 2
d. Neither 1 nor 2

Answer: (a)

Disaster Management (GS Paper Prelims) & GS Paper III (Main)

The Expansion of Settlements into Flood Prone Areas: World Bank Study

Priority: High

Primary Source: The Hindu

Relevance: Disaster and Disaster Management, Environmental Pollution & Degradation

Prepp Prelims Booster: Urban Flooding, Climate Change, Flood Zones

Prepp Mains Booster: Urban Flooding, its Causes and Concerns, and Relevant Mitigation Strategies

Why in the news?
- A **World Bank-led study published in Nature journal** highlighted a significant increase in human settlements in flood-prone areas since 1985.

- Summer monsoons caused extensive flooding in Indian cities like Bengaluru, Gurugram, and Mumbai.
- Urban floods have led to substantial economic losses, with a **State Bank of India report** estimating damages up to Rs 15,000 crore due to floods and cyclones in 2023.

What is the meaning of flood prone area?
Floodplain or Flood-Prone Area means any land area susceptible to being inundated by water from any source.

Key Findings – World Bank Study
- **Increased Settlements in Flood-Prone Areas**: The study found that human settlements in areas at high risk of flooding have more than doubled over the last four decades, primarily due to the rapid and unchecked expansion of cities.
- **Regional Differences**: There are variations in the rate of settlement expansion into flood-prone areas by region. East Asia has experienced the highest rate of such expansion, while Sub-Saharan Africa and North America have had the least.
- **Middle-Income Countries at Higher Risk**: Middle-income countries, including India (categorized as a low-middle-income country by the World Bank), show a higher tendency of urban settlement in flood-prone zones compared to low- and high-income countries.
- **India's Global Position**: While India is not among the top 20 countries with the most settlements exposed to flood hazards, it is a significant contributor to global settlements and ranks third after China and the United States in this regard. Additionally, it is third among countries with new settlements expanding into flood-prone areas between 1985 and 2015.
- **Data Granularity Issues**: There are concerns about the granularity of the data used for the study. The EM-DAT database records mass disasters but is not a detailed floodplain record, which might limit the ability to analyze flood-prone areas with high precision.

What is Urban Flooding?
- Urban flooding is the inundation of land or property in a built environment, particularly in more densely populated areas, caused by rainfall overwhelming the capacity of drainage systems, such as storm sewers.
- Unlike flooding in rural areas, which can spread over large areas, urban flooding is confined to smaller areas, often in specific neighborhoods or city streets.
- The consequences of urban flooding are often severe, including damage to infrastructure, homes, and businesses, disruption of transportation systems, contamination of water supplies, and sometimes loss of life.
- Managing urban flooding requires integrated approaches that include proper urban planning, investment in infrastructure, and the adoption of sustainable drainage and landscape management practices.

Causes of Urban Flooding

- **High Intensity Rainfall:** Short periods of intense rainfall can lead to flash floods, as the water is unable to percolate into the ground quickly enough and the drainage systems cannot cope with the volume of water.
- **Inadequate Drainage:** Many urban areas have drainage systems that are inadequate for the demands placed upon them, especially in older or poorly maintained infrastructures.
- **Impermeable Surfaces:** Urban areas have a high proportion of impermeable surfaces such as concrete and asphalt, which prevent water from naturally soaking into the ground.
- **Lack of Natural Waterways:** The channelization of creeks and the construction over natural waterways can obstruct the natural flow of water, leading to flooding.
- **Poor Urban Planning:** In some cases, cities expand rapidly without adequate planning for drainage and flood management, which can lead to development in flood-prone areas.
- **Climate Change:** Increasingly, urban flooding is exacerbated by climate change, which is associated with more frequent and severe weather events, including intense rainfall.
- **Blocked Drains and Waterways:** Litter, debris, and sediment can block drains and channels, reducing their effectiveness and leading to water backing up.

Concerns Regarding Urban Planning

- **Unsustainable Urban Expansion:** Cities have expanded rapidly into areas without adequate consideration of natural topography and hydrology, leading to development in flood-prone zones.
- **Overlooking Topography:** New localities often disregard the natural lay of the land, such as valleys and ridges, which are inherently more susceptible to flooding, resulting in greater risk and damage during flood events.
- **Impervious Surfaces:** The increase in concrete cover reduces the ground's ability to absorb rainfall, exacerbating runoff and the potential for flooding.
- **Inadequate Drainage Infrastructure:** Urban areas, especially those that have expanded quickly, may lack sufficient stormwater management systems, making them more susceptible to flooding.
- **Governance and Regulatory Challenges:** Environmental regulations, when applied, tend to focus on large infrastructure projects, often overlooking smaller-scale developments that collectively contribute to the area's flood risk.
- **Violation of Regulations:** There is a common issue of non-compliance with existing government regulations, where construction occurs in ecologically sensitive areas or floodplains without appropriate approvals or oversight.

- **Recognition of Risk Areas:** There is a need for a clear identification and acknowledgment of flood-prone areas to inform and guide sustainable urban expansion and planning.

Expansion of Urban Settlements – Global Context

- As per the study led by the World Bank, there is a marked increase in urban settlements in areas prone to flooding.
- Over four decades, since 1985, there has been more than a doubling of human settlements in such vulnerable zones.
- The study utilized satellite data to examine flood patterns and urban expansion, revealing significant spatial variations in the trends of such developments.
- **East Asia** was identified as the region with the **highest rate of urban settlement expansion** into flood-prone areas, **while Sub-Saharan Africa and North America** were among the regions with the **least expansion** into such hazardous zones.
- Middle-income countries were found to have more urban settlement in flood-prone zones compared to low- and high-income countries, positioning India as a significant example, being classified as a **low-middle-income country**.
- While India is not among the top 20 countries most exposed to flood hazards, it is a major contributor to global urban settlements and is significantly expanding into flood-prone areas, ranking third after China and Vietnam in this regard.

Socioeconomic Disparities

- **Impact on Low-Income Groups:** The informal settlements, which often house lower-income groups, are disproportionately located in low-lying, flood-prone areas.
- **Inequality in Urban Expansion:** Both elite and poor populations are expanding into flood-prone zones. However, the risk is greater for those in informal housing due to the lack of resilient infrastructure.
- **Governance and Regulation Challenges:** There is an indication that environmental regulations, when applied, tend to focus on large infrastructure projects rather than medium and small-scale modifications that affect localities.
- **Violations of Regulations:** The government regulations are often violated, with instances such as the construction of eco-tourism resorts on forest land and buildings on floodplains.

Governance Challenges

- **Inadequate Urban Planning:** The rapid and haphazard urbanization in India, particularly in flood-prone areas, points to a lack of foresight in urban planning.
- **Inefficient Data Utilization:** There is a challenge in employing accurate and granular data for assessing flood risks in urban and peri-urban areas.

- **Environmental Regulation Compliance:** Governance issues also arise from the selective application of environmental regulations.
- **Socioeconomic Disparities:** The disproportionate impact of floods on different socioeconomic classes, especially the informal low-income housing, underscores a governance failure to protect vulnerable populations.
- **Ineffective Enforcement of Regulations:** The widespread violation of environmental and urban regulations indicates a governance issue in enforcement mechanisms.
- **Recognition of Locality-Specific Risks:** The governance approach tends to overlook the fact that flooding is a locality-level issue, often leading to a 'one size fits all' strategy in urban planning and disaster management that fails to address the unique risks of specific localities.
- **Inclusive Adaptation Strategies:** There is a need for governance that promotes adaptation strategies inclusive of all income groups.
- **Infrastructure Management:** The governance challenge extends to urban infrastructure management, particularly in creating and maintaining storm-water management systems that are adequate for the increased risk of flooding due to urban expansion.

Recommendations for Mitigation

- **Scientific Mapping of Flood-Prone Areas:** There is a need for accurate and scientific mapping of areas that are vulnerable to flooding to understand the extent and frequency of the risk.
- **Storm-Water Management Plans:** Improved storm-water management systems are necessary, with a focus on installing more efficient storm-water drains to collect and divert rainwater in flood-prone areas.
- **Regulation and Governance:** Urban governance processes need to address the expansion into flood-prone areas by enforcing environmental regulations, not just for large infrastructure projects but also for medium- and small-scale developments.
- **Protecting and Upgrading Low-Income Housing:** Urban governments should make existing housing in flood-prone areas more resilient.
- **Awareness of Expansion into Flood-Prone Areas:** Recognizing and understanding that urban expansion is happening in flood-prone areas is a vital first step towards sustainable urban planning that mitigates associated risks.
- **Differentiated Adaptation Strategies:** Adaptation measures must take into account the differences between low-income residents and unauthorized structures for the elite.
- **Confront Market Forces:** There should be a confrontation of market forces that tend to push urban expansion into flood-prone areas.

- **Local-Level Focus:** Rather than viewing flooding as a generalized issue, it should be addressed at the locality level, recognizing that some areas are more prone to flooding than others due to their specific geographical and developmental conditions.
- **Resilient Urban Design:** Urban design and construction should consider topography and ecological sustainability, minimizing the concretization of areas that impede natural water flow.
- **Community Engagement:** Engage with communities, especially those in informal settlements, to ensure that their needs and knowledge are incorporated into planning and that they have secure housing options.
- **Enforce Regulations:** Enforce existing government regulations strictly to prevent unauthorized construction on floodplains and other ecologically sensitive areas.

Conclusion

Urban areas will inevitably expand into flood-prone regions, but recognizing this is key to sustainable planning. Differentiation in adaptation strategies for low-income housing and unauthorized structures is needed.

UPSC Previous Year Practice Question

Q. Account for the huge flooding of million cities in India including the smart ones like Hyderabad and Pune. Suggest lasting remedial measures. **(2020)**

Q. The frequency of urban floods due to high intensity rainfall is increasing over the years. Discussing the reasons for urban floods. highlight the mechanisms for preparedness to reduce the risk during such events. **(2016)**

Q. Major cities of India are becoming more vulnerable to flood conditions. Discuss. **(2016)**

MCQs

Q. As per the World Bank study, which region has the highest expansion into flood-prone areas?
(a) East Asia
(b) Sub-Saharan Africa
(c) North America
(d) South Asia
Answer: (a)

Q. Consider the following statements regarding urban planning measures to protect low-income housing from flood risks:
1) Construct more storm-water drains.
2) Map flood-prone areas scientifically.
3) Upgrade and protect low-income housing.
How many of the above statements are correct?
(a) Only one
(b) Only two
(c) All three
(d) None
Answer: (c)

Cutting-Edge Quantum-Technology Backed Green Hydrogen Production

Priority: High
Primary Source: The Hindu
Relevance: Energy, Government policies and interventions for the development of various sectors
Prepp Prelims Booster: Green Hydrogen, Quantum Technology, National Green Hydrogen Mission
Prepp Mains Booster: Renewable Energy and Green Hydrogen Production

Context
- Recently, the Green Keplerate Team from Banaras Hindu University developed a new High Throughput Quantum Backed Green Hydrogen Production Technology.
- This will promote the production of green hydrogen in bulk and help India achieve its objectives under the National Green Hydrogen Mission.

What is the new Green Hydrogen production technology?
- It introduces a **next-generation quantum-powered photo-catalyst with a charge transfer system coupled with high proton availability and mobility and delivered quantum catalytic applications for energy generation**.
- The state-of-the-art photochemical reactor showcases the uses of **Green Hydrogen** as an eco-friendly energy alternative.
- It has been funded by the **Department of Science and Technology (DST).**

Features:
- It is equipped with **built-in illumination assembly** and **external concave reflective panels** which enable it **to maximize the capture of solar energy.**
- It also consists of a **continuous electron-coupled proton supply system which is propelled with an electron injector mechanism utilizing industrial metal-waste.**
- The peak rate of Green Hydrogen production achieved at lab scale, following rigorous optimization, was around 1 liter/min per 10 g of Quantum Photocatalysts.

How is the new technology significant?
- **Cost-effectiveness:** The new technology produces **hydrogen of very high purity.**
  - This **eliminates the need for additional purification** which makes the hydrogen fuel produced more cost-efficient.
- **Wide scope:** It offers the potential for wide-ranging applications in various sectors such as **energy production, transportation, agriculture,** etc.
  - The team also demonstrated the **storage-free direct hydrogen internal combustion engine technologies**.

What is Quantum Technology?

- **Quantum Technology is based on the principles of Quantum mechanics which describes nature at the scale of atoms and elementary particles.**
- It is based on phenomena exhibited by microscopic particles that are distinct from the behavior of normal macroscopic objects i.e. **Classical physics.**
- **Applications:**
  - Quantum technology helps scientists understand the physical world and has pioneered innovations such as lasers and semiconductor transistors.
  - It can help **develop more reliable navigation and timing systems, secure communications, accurate healthcare imaging, and powerful computi**ng.

India's initiatives
- **QuEST:** In 2018, the Department of Science & Technology launched the **Quantum-Enabled Science & Technology (QuEST)** programme to accelerate research in quantum technology with a commitment of ₹80 crores in a three-year period.
- **NM-QTA:** The **National Mission for Quantum Technologies and Applications** was announced in the 2020 Budget to strengthen the country's quantum industry.
  - It consists of a total outlay of ₹8000 crores over a five-year period In the 2020 Budget speech.
- **Quantum Communication Lab:** The **C-DOT Quantum Communication Lab** was inaugurated in 2020 and a Quantum Key Distribution (QKD) solution that was indigenously developed was also released.
- **NM-ICPS:** The **National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS)** was launched in 2018 to address technology and human-resource development in Cyber-Physical Systems (CPS) and associated technologies.
  - It aims to establish 15 Technology Innovation Hubs (TIH), six Application Innovation Hubs (AIH), and four Technology Translation Research Parks (TTRP).
  - **Implementing agency:** Department of Science & Technology for a period of five years.
- **National Quantum Mission:** It is an initiative of the Union government that aims to drive India's advancement in quantum technology through a project-driven multi-disciplinary approach.
  - It aims to accelerate research, capacity building, and collaboration across institutions and academia.
  - It aims to build a strong research and development ecosystem and a skilled workforce while commercializing quantum services.

National Green Hydrogen Mission
- The **National Green Hydrogen Mission** was launched with the aim of **incentivizing the production of green hydrogen in India to make the country a net exporter of the fuel.**
- **Target:** Develop production capacity of at least 5MMT **(Million Metric Tonnes) per annum.**

- It also sets an **additional target of 125 GW of renewable energy** to help decarbonize the Indian industrial, mobility, and energy sectors.
- According to the Union government, **create $8 trillion of investment and 6 lakh jobs by 2030.**
- **Nodal ministry:** Union Ministry of New and Renewable Energy
- **Umbrella missions:** There are two umbrella missions under the programme:
  - **Strategic Interventions for Green Hydrogen Transition Programme (SIGHTS):** It will fund the domestic manufacture of electrolyzers and the development of green hydrogen.
  - Support pilot projects in emerging end-use and production pathways.
- **Other components:**
  - **Strategic Hydrogen Innovation Partnership(SHIP):** It will facilitate a public-private partnership framework for Research and Development under the Mission.
  - A robust Standards and Regulations framework will be also developed.
  - A coordinated skill development programme will also be undertaken.
- **Implementation:** Identification of states and regions capable of producing or utilizing hydrogen on a large scale will be done by the **Union Ministry of New and Renewable Energy.**
  - These identified sites will be developed as **Hydrogen hubs** by the Ministry.
  - The Ministry has budgeted ₹17,490 Crore for the SIGHTS programme, ₹1466 Crore for pilot projects and hydrogen hubs, ₹400 Crore for research and development, and ₹388 Crore for other parts of the mission.

Significance:
- It will make **green hydrogen production commercially viable by reducing costs from ₹350-400/kg at present to around ₹100/kg.**
- It will help **reduce the dependence on fuel imports by** ensuring **savings of ₹1 lakh in fossil fuel imports**, and help **develop local production capacities and new technologies like fuel-efficient cells.**
- It will contribute to employment generation by **creating 6 lakh jobs**.
- The **economy can be immunized from supply chain challenges**.
- Decarbonization will result in **savings of around 50 MMT of CO2 emissions per annum by 2030** which is in line with **India's NDCs under the Paris Agreement to reduce the emission intensity of its GDP by 45% from 2005 levels in 2030.**

To learn more, click the link.

Green Hydrogen
- **Green hydrogen or GH2 refers to Hydrogen produced through electrolysis i.e. the splitting of water(H_2O) into hydrogen and oxygen(O_2) using**

electricity obtained from renewable sources of energy.
- Hydrogen has zero carbon content as compared to hydrocarbons with a net carbon content of 75–85%.
- **Significance:**
  - It is a **clean, cheap, reliable, and easy-to-access fuel** source that is available regardless of the season, unlike wind and solar.
  - Even though it is not yet ready for implementation, it is expected to be **more cost-effective and less dangerous than nuclear energy.**
  - A substantial portion of the Mission's outlay is in research and development to ensure that India can profit from future demand like China did with photovoltaic cells.
  - Achieving net-zero emissions ahead of schedule would create energy security and encourage the growth of futuristic industries.
  - Adoption of green hydrogen as a strategy going forward would mean that all future infrastructure developed in India would be decarbonized reducing the costs of achieving emission targets.

What are the different types of hydrogen?
Answer: Hydrogen is mainly classified into three categories on the basis of the method of extraction.
- Grey Hydrogen: It is produced via coal or lignite gasification (black or brown), or via a process called steam methane reformation (SMR) of natural gas or methane (grey).
- Blue Hydrogen: It is produced via natural gas or coal gasification combined with carbon capture storage (CCS) or carbon capture use (CCU) technologies.
- Green Hydrogen: It is produced using electrolysis of water with electricity generated by renewable energy.

UPSC Mains Practice Questions
Q.1) Clean energy is the order of the day.' Describe briefly India's changing policy towards climate change in various international fora in the context of geopolitics. (UPSC GS2 2022)
Q.2) Do you think India will meet 50 percent of its energy needs from renewable energy by 2030? Justify your answer. How will the shift of subsidies from fossil fuels to renewables help achieve the above objective? Explain.(UPSC GS3 2022)
Q.3) Describe the benefits of deriving electric energy from sunlight in contrast to the conventional energy generation. What are the initiatives offered by our Government for this purpose? (UPSC GS3 2020)

MCQs
Question: With reference to green hydrogen, consider the following statements: It can be used directly as a fuel for internal combustion.

1. It can be blended with natural gas and used as fuel for heat or power generation.
2. It can be used in the hydrogen fuel cell to run vehicles.

How many of the above statements are correct? (UPSC CSE 2023)

a. Only one
b. Only two
c. All three
d. None

Answer: (c)

Question: Consider the following heavy industries:
1. Fertilizer plants
2. Oil refineries
3. Steel Plants

Green hydrogen is expected to play a significant role in decarbonizing how many of the above industries? (UPSC CSE 2023)

a. Only one
b. Only two
c. All three
d. None

Answer: (c)

How Do SIM Cards Work?

Priority: Medium
Primary Source: The Hindu

Relevance: Science and Technology- developments and their applications and effects in everyday life.
Prepp Prelims Booster: Subscriber Identification Module, Global System for Mobile Communication
Prepp Mains Booster: Evolution of Communication Technology

Why in the news?
- This article discusses the evolution and working of SIM cards, which have become one of the most ubiquitous technologies in the world. In 2021, there were more than 14 billion cellular devices in the world, more than double that of the global population.

What is a SIM card?
- A **SIM** or **Subscriber Identification Module** card is an integrated circuit or microchip that identifies subscribers on a cellular network.
- It is used to confirm the identity of a subscriber by helping the network locate and verify the user.
- A SIM card is mandatory for a user to connect to a cellular network following the **Global System for Mobile Communications (GSM)** standard.
  o It uses a **unique authentication key** which is stored on the SIM card to identify the user as signals sent by the phone into the network are 'signed' by the key, which helps determine the legitimacy of the connection.
  o Moreover, the key is designed in such a way that the user cannot access it through their phone.

  o However, it is possible to duplicate a SIM card by accessing its key and storing it in multiple cards.
- SIM cards also store information about their own ID number, the IMSI, the subscriber's location area identity, a list of preferred networks, emergency numbers, and in some cases, contacts and SMS messages.

How does a SIM card work?
- **Design standard:** SIM Cards are designed according to the **ISO/IEC 7816** international standard maintained by the **International Organisation for Standardisation and the International Electrotechnical Commission.**
- **Physical structure:** The card consists of an integrated circuit glued to a silicon substrate on the top side with metal contacts (gold-colored side of the SIM card) interfacing with the phone's data connectors.
- **Working of the pins:** The metal contacts are segmented in appearance with each segment called a pin, each having a specific purpose.
  o These pin-wise roles are specified by the ISO/IEC 7816-2 standard which specifies various functions of a SIM card and how they are to be implemented.
- **Network side:** The SIM helps a phone establish its place within a cellular network.
  o The phone sends data via the network to a telephone exchange when the subscriber dials a recipient's number.
  o If the recipient is connected to the same exchange, the network establishes their identity and the call is routed to them.
  o If the recipient is 'located' elsewhere, a computer connected to the network routes the call there according to the most optimum route.

How have SIM cards changed?
- **Smart cards**, of which SIM cards are a type, were first developed in the late 1960s by German Engineer - **Helmut Gröttrup** - as an integrated circuit in a plastic panel the size of a credit card.
- The evolution of the SIM card has been correlated with the network to which its users connect.
- **GSM standardization:** The **GSM Technical Specification 11.11** prepared by the **European Telecommunications Standards Institute** defines the physical features, internal organization, functioning, operating conditions, etc.
- **3GPP:** 3GPP is a consortium of seven organizations that developed the standards for the 3G, 4G, and 5G networks.
  o The ETSI transferred its responsibilities to the consortium which includes the **Telecommunications Standards Development Society in India.**
- **Universal Mobile Telecommunications System:** Following the introduction of the Universal Mobile Telecommunications System, 3G networks replaced the 2G networks.
  o Prior to this, the term 'SIM card' denoted both the hardware and the corresponding software.

o   As 3G systems emerged, 'SIM' began to be used to refer to just the software while the hardware was referred to as the **Universal Integrated Circuit Card (UICC).**

o   The software part was upgraded to an application called **Universal SIM, or USIM,** which could be modified to be compatible with the identification and security requirements of 3G, 4G, and 5G networks.

What is an eSIM?

- Over the years, SIM cards have evolved into a more compact size and shape to micro SIMs and nano SIMs and now to eSIMs, which are **digital extensions of the regular SIM card.**
- In **eSIMs**, the SIM software is loaded onto a UICC that is permanently installed in the mobile equipment in the factory itself, also known as the eUICC.
- The specifications of the eSIM are defined by the GSM Association.
- Mobile equipment with this capability can be remotely reprogrammed by the network operator who simply has to reprogram the eSIM, instead of physically replacing the SIM.

Advantages of the eSIM:

- **Environmentally friendly:** It is considered to be more environmentally friendly in comparison to a physical SIM due to its reprogrammability which reduces the plastic and metal requirements.
- **Security:** Since it cannot be separated from the phone, it is more secure than a physical SIM as malicious actors cannot duplicate its details by gaining access to the device.

Disadvantages of the eSIM:

- **Difficult for digitally illiterate users:** In countries like the USA, eSIMs can be reprogrammed by users. However, this can be difficult for those who are not digitally literate like the elderly population.
- **Privacy concerns:** In the absence of adequate data privacy laws, network operators could track and misuse subscribers' data.

UPSC Mains Practice Questions

Q.1) What are the different elements of cyber security? Keeping in view the challenges in cyber security, examine the extent to which India has successfully developed a comprehensive National Cyber Security Strategy. (PSC GS3 2022)

MCQs

Question: Which of the following do not belong to the GSM family of wireless technologies? (UPSC CSE 2010)

a.   EDGE
b.   LTE
c.   DSL
d.   Both EDGE and LTE

Answer: (c)

Question: With reference to communication technologies, what is/are the difference/differences between LTE (Long Term Evolution) and VoLTE (Voice over Long Term Evolution)?

1.   LTE is commonly marketed as 3G and VoLTE is marketed as advanced 3G.
2.   LTE is data-only technology while VoLTE is voice-only technology.

Select the correct answer using the code given below: (UPSC CSE 2019)

a.   1 only
b.   2 only
c.   Both 1 and 2
d.   None of the above

Answer: (d)

Improving The Compatibility Of Pig Organs For Transplantation Into Humans

Priority: Medium
Primary Source: The Hindu
Relevance: Science & Technology, Biotechnology
Prepp Prelims Booster: Xenotransplantation
Prepp Mains Booster: Issues Related to Xenotransplantation and Genetic Engineering of Animals

Context

- A recent study published in *Nature*, has **described the successfully designed and transplanted kidney grafts from genetically modified pigs into non-human primates,** marking a significant milestone in the field of transplantation.
- Xenotransplantation, which involves transplanting animal organs into humans, holds promise as a **potential solution to the global shortage of organs for transplantation.**

What is Xenotransplantation?

- Xenotransplantation involves transplanting **organs from one species to another** and was initially attempted in humans during the 1980s.
- One notable case involved Baby Fae, who received a baboon heart but faced significant challenges and ultimately led to the abandonment of such experiments.
- Nonetheless, **pig heart valves have been successfully used in humans for over half a century.**
- Today, the focus has shifted to **genetically engineered pigs as a potential solution to the organ shortage**

crisis, with the hope of providing a sustainable source of organs for transplantation.

Why are pigs most used for xenotransplantation?

- **Rapid Growth:** Pigs can reach adult human size in just six months, making them a practical source of organs.
- **High Reproductive Rate:** Pigs have large litters, which ensures a potentially unlimited supply of organs, tissues, and cells.
- **Anatomical and Physiological Similarities:** Pigs share significant similarities with humans in terms of organ anatomy and physiology, making them a suitable match for transplantation.
- **Comparable Cardiac Function:** Pig hearts exhibit cardiac output and stroke volume similar to those of humans, making them suitable for heart transplantation.
- **Genetic Modifiability:** Pigs can be genetically engineered to reduce the risk of rejection by the human immune system, increasing the likelihood of successful transplantation.
- **Ethical Acceptance:** Pigs are primarily raised for food, which raises fewer ethical concerns compared to using primates or other animals for organ procurement.

Issues with Xenotransplantation

- **Animal Rights:** Many individuals, including animal rights groups, oppose the idea of killing animals for the sole purpose of harvesting their organs for human use. This raises questions about the ethical treatment of animals and the potential for harm to them.
- **Threats of Zoonosis:** Xenotransplantation carries the potential risk of zoonotic diseases, which are diseases that can be transmitted from animals to humans.
- **Immune Response:** While genetic modifications can reduce the risk of organ rejection, the long-term effectiveness of immunosuppressive drugs and the potential for immune responses against the transplanted organs are important considerations.
- **Religious Violations:** Xenotransplantation involving certain animals, such as pigs, raises concerns in religions like Islam and others where consuming or using specific animals is strictly forbidden. This can conflict with religious beliefs and practices, creating ethical dilemmas.

Conclusion

- The recent breakthrough in xenotransplantation involving genetically modified pig kidney grafts represents a significant stride toward addressing the ongoing organ shortage crisis. Pigs are favored for their practicality, anatomy, and genetic adaptability.
- However, ethical and safety concerns, such as animal rights, zoonotic risks, and immune responses, must be carefully addressed.
- To move forward, a balanced approach that considers scientific progress and ethics is essential, alongside exploring other solutions like organ donation and regenerative medicine.

MCQ

Question: Consider the following statements: **(UPSC 2020)**

1. Genetic changes can be introduced in the cells that produce eggs or sperms of a prospective parent.
2. A person's genome can be edited before birth at the early embryonic stage.
3. Human induced pluripotent stem cells can be injected into the embryo of a pig.

Which of the statements given above is/are correct?

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

Answer: (d)

Karman Line: Where Space Begins

Priority: Medium
Primary Source: The Hindu
Relevance: Space Technology; Awareness in the fields of IT, Space; Scientific Innovations & Discoveries
Prepp Prelims Booster: Karman Line,
Prepp Mains Booster: Issues Related to the Regulation of Airspace and Associated Challenges

Context

- This article discusses the Karman Line, an imaginary **line that demarcates the earth's atmosphere from space.**

What is the Karman Line?

- The Karman Line is an **imaginary line that demarcates the earth's atmosphere from space.**
- It is located **100 kilometers (62 miles) above mean sea level.**
- It was established in the 1960s by a record-keeping body called **Fédération Aéronautique Internationale (FAI).**
- Anyone individual who crosses this line qualifies as an astronaut.
- **The line is named after Theodore von Kármán** (1881–1963), a Hungarian American engineer and physicist, who was active primarily in aeronautics and astronautics.
  - He was the first person to calculate the altitude at which the atmosphere becomes too thin to support aeronautical flight and arrived at 83.6 km himself.

Why is the Karman Line significant for regulating airspace?

- It indicates the altitude beyond which traditional aircraft cannot fly without a propulsion system.
- It also serves as a legal reference for distinguishing national airspace from international space, much like international waters.

What are the challenges?

- There are a variety of definitions of where space actually begins and no definitive law that confirms the true boundary.

o **For example:** For NASA and the U.S. military, space starts at an altitude of 50 miles (around 80 kilometers), according to NOAA. However, to the international community, including the Fédération Aéronautique Internationale (FAI), space starts a little higher, at 62 miles (100 km), at the Kármán line.

- Despite its significance, crossing the Kármán Line physically doesn't yield substantial differences.
- Air pressure and composition remain relatively consistent within a short distance on either side of the line, and Earth's gravity still exerts its influence. The Earth's atmosphere also doesn't abruptly end at this point, raising questions about its necessity.

Why do we need a Karman Line?

- **Legal Framework:** It provides a clear and internationally recognized definition of where outer space begins, aligning with principles outlined in the 1967 Outer Space Treaty. This legal framework is crucial for regulating space activities.
- **Access to Space:** The Kármán line ensures that outer space remains accessible to all countries, promoting equitable opportunities for scientific research and exploration beyond Earth.
- **Dispute Avoidance:** By defining a boundary for space, it helps prevent disputes and conflicts related to territorial claims or jurisdiction in outer space.
- **Monitoring Space Activities:** It allows for effective monitoring and tracking of space activities, including satellite launches and human space travel, which is essential for safety and security in space.
- **International Cooperation:** The Kármán line encourages international cooperation in space exploration, fostering collaboration among nations in the peaceful use of outer space.

Conclusion

The Karman Line serves as a vital boundary that defines the transition from Earth's atmosphere to space. While there may be variations in the definitions of where space begins, the Karman Line provides a globally recognized and legally binding framework. Its importance lies in its role in regulating airspace, averting disputes, promoting equal access to space, facilitating international cooperation, and ensuring the peaceful use of outer space. This boundary symbolizes the unity of nations in their pursuit of scientific discoveries and technological advancements beyond our planet, reinforcing the spirit of exploration and cooperation in the realm of space.

UPSC Mains Practice Question:

Q.1) Discuss India's achievements in the field of Space Science and Technology. How has the application of this technology has helped India in its socio-economic development? (UPSC GS3 2016)

MCQ

Question: What is the purpose of the Flight Test Vehicle Abort Mission-1 (TV-D1) in the Gaganyaan program?
(a) To test the spacecraft's reentry capabilities
(b) To demonstrate the performance of the Crew Escape System
(c) To perform scientific experiments in space
(d) To test communication systems
Answer: (b)

What Is Multimodal Artificial Intelligence And Why Is It Important ?

Priority: Medium

Primary Source: The Hindu

Relevance: Science and Technology- developments and their applications and effects in everyday life, Awareness in the fields of IT

Prepp Prelims Booster: Multimodal Artificial Intelligence

Prepp Mains Booster: Concerns about Artificial Intelligence

Context

- Recently, AI companies including OpenAI, Google, and Meta have begun to develop and release multimodal AI services.

What is multimodal artificial intelligence?

- Multimodal Artificial Intelligence refers to **advanced AI models in which multiple modes of information or sensory data are integrated** in order to facilitate human-like reasoning and decision-making.
- While the traditional AI models are focused on processing information from a single modality, i.e. text, image, or speech, the multimodal model incorporates data from multiple modalities.
- They are developed using sophisticated techniques such as feature extraction, machine learning, and neural networks that can integrate and analyze data from multiple sources.

Advantages:
o Enhanced accuracy
o More effective AI systems.

Examples:
o **Natural language processing (NLP):** It combines text and speech recognition for more accurate and natural language interactions between humans and machines.
o OpenAI's text-to-image model, **DALL.E** is a multimodal AI model that was released in 2021.
o DALL.E is built on another multimodal text-to-image model called **CLIP** developed by OpenAI.

The AI race

- OpenAI announced that it had enabled **GPT-3.5 and GPT-4** to study images and analyze them in words.
- It is also working on **Gobi,** which is expected to be a new multimodal AI system.
- According to reports, the release was due to a report that Google's new multimodal model, **Gemini,** was being tested

How does multimodality work?

- ChatGPT's vision capabilities are based on DALL.E, which is based on the same concept as other AI image generators such as **Midjourney** and **Stable Diffusion** which link text and images in the training stage.

Training

- The **system identifies patterns in visual data which can be connected with the data of the image descriptions.**
- As a result, the system is able to generate images based on the text prompts entered by the user.
- Multimodal audio systems are also trained in a similar manner.
- GPT's voice processing capabilities are based on its own open-source speech-to-text translation model, **Whisper**, which was released in 2022.
- Whisper can recognize speech in audio and translate it into simple language text.

What are some applications of multimodal AI?

- It can be used in fields such as healthcare, finance, entertainment, etc.
- **Healthcare:** Multimodal models can be used to **analyze medical images, patient data, and clinical notes** to provide more accurate diagnoses and treatment plans.
  - AI systems that can analyze complex datasets can be used in processing CT scans or identifying rare genetic variations.
- **Finance:** They can be used to **analyze financial data** from multiple sources, to make more informed investment decisions.
- **Entertainment:** It can be used to develop immersive and interactive virtual reality games and movies.
- **Translation:** Meta's **SeamlessM4T** model, can perform text-to-speech, speech-to-text, speech-to-speech and text-to-text translations for around 100 languages.

Potential future applications

- According to research, future multimodal models could use **alternate sensory data like "touch, speech, smell, and brain fMRI signals."**
- In the future, AI might be able to **generate visuals and sounds of an environment** as well as other physical elements.
  - For example, a beach simulation would have waves, wind, and temperature.

Examples

- In 2020, Meta was working on a multimodal system to automatically detect hateful memes on Facebook while Google published research about a multimodal system that could predict the next lines of dialogue in a video.
- In 2023, Meta announced **ImageBind**, an open-source AI multimodal system with text, visual data, audio, temperature and movement modalities.
- The idea behind this is to have future AI systems cross-reference this data in similar ways that current AI

systems do for text inputs. For instance, a virtual reality device is.

Conclusion

- The multimodal model has the potential to revolutionize the way we process and analyze information.
- Incorporating data from multiple modalities allows AI systems to achieve greater accuracy, efficiency, and human-like reasoning, leading to a more intelligent and connected world.

UPSC Mains Practice Questions

Q.1) Introduce the concept of Artificial Intelligence (AI). How does AI help clinical diagnosis? Do you perceive any threat to privacy of the individual in the use of AI in healthcare? **(UPSC GS3 2023)**

MCQs

Question: With the print state of development, Artificial Intelligence can effectively do which of the following?

1. Bring down electricity consumption in industrial units
2. Create meaningful short stories and songs
3. Disease diagnosis
4. Text -to -Speech Conversion
5. Wireless transmission of electrical energy

Select the correct answer using the code given below: (UPSC CSE 2020)

a.	1, 2, 3 and 5 only
b.	1, 3 and 4 only
c.	2, 4 and 5 only
d.	1, 2, 3, 4 and 5

Answer: (d)

Second Anti-Malaria Vaccine for Children Approved by WHO

Priority: High
Primary Source: Down To Earth
Relevance: Awareness in the fields of Biotechnology
Prepp Prelims Booster: R21/Matrix-M

Context

- The **World Health Organization (WHO)** approved a **second anti-malaria vaccine (R21/Matrix-M)** for children, which is developed by the University of Oxford with help of Serum Institute of India.

About 2nd Malaria Vaccine

- The R21/Matrix-M vaccine is **manufactured by** the **Serum Institute of India** and has already been approved for use in Burkina Faso, Ghana and Nigeria.
- Matrix-M vaccine works by triggering an immune response against one stage (known as **sporozoite - when the parasite exits a mosquito and enters the human body**) of that parasite's life cycle.
- During the testing phase, the vaccine appears to be highly effective, with preliminary studies in Burkina Faso showing up to 80% effectiveness when given in three initial doses and a booster a year later.

- The vaccine will be rolled out in those African countries in early 2024 and will be available in mid-2024 in other countries and will be given in **3 doses.**
- After approval **GAVI**(A Global Vaccine Alliance) and **UNICEF** can buy vaccines from manufacturers.
- Along with this, WHO also recommended **Takeda Pharmaceuticals' vaccine against dengue** and asked all countries of 'meningitis belt' to use **Men5CV against 'meningitis disease.**

> **About 1st Malaria Vaccine (RTS,S)**
> - The World Health Organization (WHO) authorised the world's first Malaria Vaccine in 2021.
> - **RTS, S/AS01, often known as Mosquirix**, is an **injectable malaria vaccine** that targets **P. falciparum**, the most common strain of malaria in Africa. It is the first and only vaccination to provide partial protection in children under the age of five. **It is given in 4 doses.**
> - **GlaxoSmithKline**, a British pharmaceutical company, created it in 1987.

About Malaria
- Malaria is caused by the bite of the **female Anopheles mosquito** if the mosquito itself is infected with a malarial parasite.
- There are **five kinds of malarial parasites** — **Plasmodium falciparum**, **Plasmodium vivax** (the commonest ones), **Plasmodium malariae**, **Plasmodium ovale** and **Plasmodium knowlesi**.
- The malaria parasite **P falciparum is the deadliest** and most common on the African continent. In most places outside of Sub-Saharan Africa, P. vivax is the most common malaria parasite.
- **The earliest signs of malaria**—fever, headache, and chills, come 10–15 days after the infective mosquito bite and might be mild and difficult to distinguish from other illnesses.
- P. falciparum malaria can escalate to severe sickness and death in as little as 24 hours if left untreated.

> **Malaria burden in India**
> - According to WHO, India had an anticipated 5.6 million cases of malaria in 2019, compared to nearly 20 million cases in 2020.
> - The occurrence of Malaria in India is decreasing continuously.

Other remedies of Malaria
Vector control
- It means to control malaria parasite carriers such as **Anopheles mosquito. This is a preventive method.**
- Vector control is an essential component of malaria control and eradication methods because it is very successful in avoiding infection and disease transmission.
- Insecticide-treated nets (ITNs) and indoor residual spraying are the two main therapies (IRS).

Vaccine

- Since October 2021, WHO has additionally recommended that children living in areas with moderate to high P. falciparum malaria transmission receive the **RTS,S/AS01** malaria **vaccine**.
- The vaccination has been found to drastically decrease malaria, particularly severe malaria, in young infants.

Treatment available
- Malaria is a treatable disease. Effective **antimalarial medicines** available today and the mainstay of recommended treatment for *Plasmodium falciparum* malaria, the deadliest malaria parasite globally.
- **This is a punitive method.**

Efforts on Global level to curb Malaria
Global Malaria Program
- The WHO Global Malaria Programme (GMP) is responsible for coordinating WHO's global efforts to control and eliminate malaria. Its work is guided by the "**Global technical strategy for malaria 2016–2030**" adopted by the World Health Assembly in May 2015 and updated in 2021.

E-2025 Initiative
- The WHO has also identified 25 countries with the potential to eradicate malaria by 2025 under its **'E-2025 Initiative'.**

Global technical strategy for malaria
- The WHO's **Global technical strategy for malaria 2016–2030** aims to reduce malaria case incidence and mortality rates by at least 40% by 2020, at least 75% by 2025 and at least 90% by 2030 against a 2015 baseline.

Other efforts
- Over the last two decades, 11 countries have been certified by the WHO Director-General as malaria-free: **United Arab Emirates** (2007), **Morocco** (2010), **Turkmenistan** (2010), **Armenia** (2011), **Sri Lanka** (2016), **Kyrgyzstan** (2016), **Paraguay** (2018), **Uzbekistan** (2018), **Algeria** (2019), **Argentina** (2019), and **El Salvador** (2021).
- Countries that have achieved at least 3 consecutive years of zero indigenous cases of malaria are eligible to apply for the WHO certification of malaria elimination.

Efforts in India to curb Malaria
National Vector Borne Disease Control Programme
- It was launched in 2003 and is managed by the **Ministry of Health and Family Welfare.**
- Directorate of National Vector Borne Disease Control Programme (NVBDCP) is the central nodal agency for prevention and control of **six vector borne diseases (VBDs) i.e. Malaria, Dengue, Lymphatic Filariasis, Kala-azar, Japanese Encephalitis and Chikungunya** in India.

National Framework for Malaria Elimination (NFME)
- Malaria elimination efforts were initiated in 2015 and were intensified after the launch of the **National Framework for Malaria Elimination (NFME)** in 2016 by the **Ministry of Health and Family Welfare.**

- NFME is in line with WHO's 2016-2030 Malaria Strategy, which guides the WHO Global Malaria Programme (GMP).

National Strategic Plan for Malaria Elimination
- The National Strategic Plan for Malaria Elimination (2017-22) was launched in July 2017 which laid down strategies for the following five years.
- It gives **year-wise elimination targets** in various parts of the country depending upon the endemicity of malaria.

High Burden to High Impact (HBHI) initiative
- Implementation of the High Burden to High Impact (HBHI) initiative was started in four states (**West Bengal, Jharkhand, Chhattisgarh and Madhya Pradesh**) in July 2019.
- Distribution of Long Lasting Insecticidal Nets (LLINs) to high burden areas has led to a reduction in endemicity in these 4 very high endemic states.
- Apart from this, The **Indian Council of Medical Research (ICMR)** has established **Malaria Elimination Research Alliance-India (MERA-India)** which is a **group of partners** working on malaria control.

Some Facts
World Malaria Day
- World Malaria Day is observed every year on **25th April**.
- It was established by the World Health Organization (WHO) in **2007** to raise awareness about malaria.
- The theme for World Malaria Day 2023 is "**Time to deliver zero malaria: invest, innovate, implement**".

World Malaria Report
- It is published by **WHO**.
- The report highlights the progress towards the global targets and identifies opportunities and challenges for curbing and eliminating malaria.

MCQs
Question: Widespread resistance of malarial parasites to drugs like chloroquine has prompted attempts to develop a malarial vaccine to combat malaria. Why is it difficult to develop an effective malaria vaccine? **(UPSC 2010)**

a.   Malaria is caused by several species of Plasmodium

b.   Man does not develop immunity to malaria during natural infection

c.   Vaccines can be developed only against bacteria

d.   Man is only an intermediate host and not the definitive host

Answer: (b)

Consider the following diseases (UPSC 2014)
1.   Diphtheria
2.   Chickenpox
3.   Smallpox

Which of the above diseases has/have been eradicated in India?
 (a) 1 and 2 only
 (b) 3 only
(c) 1, 2 and 3
(d) None
Answer: (b)

Biodiversity Technical Body Reviews Kunming-Montreal Biodiversity Framework in Nairobi

Priority: Medium
Primary Source: Down To Earth
Relevance: Biodiversity
Prepp Prelims Booster: Kunming-Montreal Global Biodiversity Framework
Prepp Mains Booster: Issues Related to Biodiversity and the Kunming-Montreal Global Framework

Context
- The **twenty-fifth meeting of the SBSTTA (SBSTTA-25**) took place in Nairobi, Kenya from 15 to 19 October 2023. This meeting was notable for being the first gathering of the UN Biodiversity community following the adoption of the **Kunming-Montreal Global Biodiversity Framework (GBF)**
- Around 670 experts from 135 countries are attending the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA-25), the first meeting since its December 2022 adoption.

Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA)
- The **Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) is an open-ended intergovernmental scientific advisory body** established under Article **25 of the Convention on Biological Diversity (CBD).**
- The SBSTTA has convened 23 times and has generated a total of 240 recommendations to the COP, with some of these recommendations being fully endorsed by the COP.
- The meeting's primary aim was to recommend science-based measures to support the implementation of the ambitious GBF.

Key Takeaways of the Meet
- Emphasized **monitoring both quantitative and qualitative elements of area-based ocean conservation.**
- **Intergovernmental Science-Policy Platform's assessment report on invasive alien species** was discussed by experts.
- **Examining the connection between biodiversity and climate change based on recent reports** from the Intergovernmental Panel on Climate Change.

What is Kunming-Montreal Biodiversity Framework?

- The **Kunming-Montreal Global Biodiversity Framework (GBF** was endorsed during the **15th Conference of Parties (COP 15)** to the **Convention on Biological Diversity (CBD)** in December 2022, following a four-year consultation and negotiation process.
- It is a critical and ambitious initiative adopted with the aim to tackle biodiversity loss and promote a **harmonious co-existence between humanity and nature**.
- The overarching vision of the GBF is to **attain a world living in harmony with nature by the year 2050**.
- It sets forth **four goals for 2050** and **23 targets for 2030**, which collectively lay down an ambitious route towards this vision.

Kunming-Montreal Biodiversity Framework – Main Goals
- **Goal A:** Centred on safeguarding ecosystem integrity, species health, and genetic diversity.
- **Goal B:** Focus on the sustainable use and management of biodiversity and nature's contributions to people.
- **Goal C:** To aim at the fair and equitable sharing of benefits arising from the utilization of genetic resources.
- **Goal D:** Focus on securing adequate means of implementation for the Kunming-Montreal global biodiversity framework.

Conference of Parties (COP15)
- COP 15 stands for the 15th meeting of the Conference of the Parties to the Convention on Biological Diversity (CBD).
- COP 15 was of particular significance because it was expected to adopt the post-2020 global biodiversity framework, a successor to the Aichi Biodiversity Targets which guided international biodiversity efforts from 2011 to 2020.
- This new framework, often referred to as the Kunming-Montreal Global Biodiversity Framework, is intended to guide international efforts in biodiversity conservation for the next decade and beyond.
- Apart from the new biodiversity framework, COP 15 aimed to address a range of other biodiversity-related issues, from funding and capacity-building to specific themes like protected areas, invasive species, and the interlinkages between biodiversity and climate change.

Kunming-Montreal Biodiversity Framework – Key Targets

1. Conservation and Management
- At least 30% of the world's lands, inland waters, coastal areas, and oceans should be effectively conserved and managed, with particular emphasis on areas of significant importance for biodiversity and ecosystem functioning and services.

2. Restoration
- Restoration should be completed or underway on at least 30% of degraded terrestrial, inland waters, and coastal and marine ecosystems.

3. Reduction of Biodiversity Loss
- Reduce to near zero the loss of areas of high biodiversity importance, including ecosystems of high ecological integrity.

4. Food Waste and Overconsumption
- Halve global food waste and significantly reduce overconsumption and waste generation.

5. Chemical and Nutrient Pollution
- Reduce by half both excess nutrients and the overall risk posed by pesticides and highly hazardous chemicals.

6. Financial Reforms and Mobilization
- Phase out or reform by 2030 subsidies that harm biodiversity by at least $500 billion per year, while scaling up positive incentives for biodiversity conservation and sustainable use.
- Mobilize at least $200 billion per year by 2030 in domestic and international biodiversity-related funding from all sources – public and private.
- Raise international financial flows from developed to developing countries to at least US$ 20 billion per year by 2025, and to at least US$ 30 billion per year by 2030.

7. Invasive Alien Species
- Prevent the introduction of priority invasive alien species, reduce by at least half the introduction and establishment of other known or potential invasive alien species, and eradicate or control invasive alien species on islands and other priority sites.

8. Corporate Responsibility
- Require large and transnational companies and financial institutions to monitor, assess, and transparently disclose their risks, dependencies, and impacts on biodiversity through their operations, supply, and value chains, and portfolios.

9. Others
- Other targets also focus on aspects like reducing harmful government subsidies, cutting food waste in half, and enhancing financial support for biodiversity conservation.

India's Stand at COP15
- India urged the creation of a **new and dedicated fund** to assist developing nations in successfully implementing a **post-2020 global framework to prevent and reverse biodiversity loss.**
- So far, the only source of money for biodiversity conservation has been the **Global Environment Facility, which caters to several treaties such as the UNFCCC and the UN Convention to Combat Desertification.**
- India has stated that biodiversity conservation must be based on '**Common but Differentiated Responsibilities and Respective Capabilities**' (CBDR), as climate change has an influence on nature.
- According to India, **developing countries bear the majority of the burden of fulfilling biodiversity conservation targets, necessitating significant financing and technological transfer.**

Conclusion

The Kunming-Montreal Global Biodiversity Framework serves as a roadmap to address the pressing issue of biodiversity loss and to promote sustainable development on a global scale. Recommendations from SBSTTA-25 in Nairobi will proceed for consideration at COP16 in 2024.

UPSC Previous Year Question

Q. Explain the purpose of the Green Grid Initiative launched at the world leaders Summit of the COP 26 UN Climate Change Conference in Glasgow in November, 2021. When was this idea first floated in the International Solar Alliance (ISA)? **(2021)**

Q. Describe the major outcomes of the 26th session of the Conference of the Parties (COP) to the United Nations Framework Convention on Climate Change (UNFCCC). What are the commitments made by India in this conference? **(2021)**

MCQs

Q. Consider the following statements: (UPSC 2023)

1. In India, the Biodiversity Management Committees are key to the realization of the objectives of the Nagoya Protocol.

2. The Biodiversity Management Committees have important functions in determining access and benefit sharing, including the power to levy collection fees on the access of biological resources within its jurisdiction.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and
(d) Neither 1 nor 2

Answer: (c)

Q. Invasive Species Specialist Group' (that develops Global Invasive Species Database) belongs to which one of the following organizations? (UPSC 2023)

(a) The International Union for Conservation of Nature
(b) The United Nations Environment Programme
(c) The United Nations World Commission for Environment and Development
(d) The World Wide Fund for Nature

Answer: (a)

Q. "Momentum for Change: Climate Neutral Now" is an initiative launched by: (UPSC 2018)

(a) The Intergovernmental Panel on Climate Change
(b) The UNEP Secretariat
(c) The UNFCCC Secretariat
(d) The World Meteorological Organisation

Answer: (c)

Climate Solution For Climate Polycrisis

Priority: Medium
Primary Source: The Hindu
Relevance: Environmental Conservation, Environmental Pollution and Degradation, Environmental Impact Assessment, Climate change.


Context

- This article is about the **"climate polycrisis,"** which refers to the interconnected and compounding crises related to climate change affecting various sectors and domains.

What is Climate Polycrisis?

- The term **"climate polycrisis" refers to the complex and interconnected crises that arise from climate change.**
- It encompasses a wide range of challenges and impacts, both physical and societal, resulting from climate change.
- These crises **extend beyond environmental concerns and include social, economic, and political challenges.**
- Hence, the climate polycrisis is a multifaceted and intertwined set of problems that stem from the effects of climate change, affecting various sectors and domains of society.
- **In India,** it can be seen that the interconnections between seemingly different sectors such as energy, infrastructure, health, migration and food production are being impacted by climate change.

Example:
Extreme temperatures can lead to wildfires that can release stored carbon, contributing to further climate change. Climate change can lead to extreme climatic events such as drought and floods. Resource scarcity in such situations can lead to displacement, and economic hardships. Which can contribute to political instability, conflict, and social unrest in affected region

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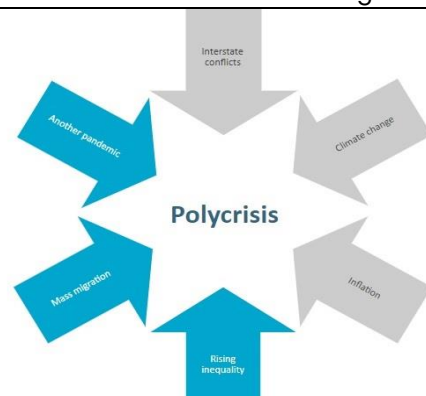
The Need for a Holistic Approach

- **Addressing the climate polycrisis requires a holistic approach that considers diverse perspectives and priorities of stakeholders**, while ensuring resilience, equity, and justice. Sectoral solutions can lead to unintended consequences in such a complex crisis.
- To combat the climate polycrisis, there is a **need for a profound transformation that establishes a new economy sensitive to the planet.**

- Just as digital infrastructure enables new startups and public services, it involves the creation of **"carbon infrastructure" that integrates carbon considerations into policy-making at all levels, from households to nations.** This approach aims to build a sustainable future carbon regime.

How can a Carbon Infrastructure be built?

- **Measuring Carbon Emissions:** The first step in building a carbon infrastructure is to measure carbon emissions. This involves quantifying the amount of greenhouse gases, such as carbon dioxide (CO_2), that are released into the atmosphere.
- **Carbon Accounting:** This accounting system is designed to track carbon emissions, carbon removal efforts (like afforestation and carbon capture), carbon storage (such as in forests or soil), and carbon offsetting (compensating for emissions through actions like investing in renewable energy projects).
- **Carbon Books:** Just as businesses and individuals maintain financial records to track their income, expenses, and assets, the proposed carbon infrastructure encourages entities to keep "carbon books" alongside their financial records. This allows for a more comprehensive understanding of an entity's carbon footprint.
- **Visibility of Carbon Flows:** The primary goal of building a carbon infrastructure is to make the flows of carbon emissions and removals visible and transparent. This visibility enables better decision-making and policy formulation. It also allows for the identification of carbon surpluses and deficits.
- **Mandatory Reporting:** Under the carbon infrastructure, it would be mandatory for businesses and individuals to report their carbon emissions and removal activities. This reporting would create a comprehensive picture of how carbon moves within society.
- **Policy and Target Setting:** With a robust carbon infrastructure in place, policymakers can set targets for emissions reductions and track progress toward these goals. It facilitates evidence-based decision-making and supports the development of policies aimed at reducing carbon emissions.

Why is there a need for National Carbon Accounting (NCA)?

- The lack of such tracking **currently hinders the implementation of a progressive carbon tax.**
- An NCA would **require businesses and individuals to report their carbon emissions, making carbon circulation visible.** It could lead to the creation of a carbon budget, parallel to economic GDP, which countries aim to reduce.
- This system **could help India achieve its net-zero emissions goal by 2070 and foster new economic and societal models** focused on ecological sustainability.

How is National Carbon Accounting a Polysolution for Climate Polycrisis?

- **Comprehensive Understanding:** NCA provides a comprehensive understanding of the carbon emissions and carbon flows within a nation, from individual citizens and households to businesses and industries.
- **Accountability:** By making individuals and entities accountable for their carbon emissions and carbon footprint, NCA encourages responsible behavior. It can help identify major sources of emissions and encourage carbon reduction efforts at all levels, from individuals to businesses and government entities.
- **Informed Decision-Making:** It offers a data-driven basis for policy and decision-making. It allows policymakers to set clear carbon reduction targets, allocate resources effectively, and make informed choices about carbon taxes, subsidies, and incentives.
- **Progress Tracking:** With NCA, it becomes possible to track progress toward carbon reduction goals over time. This helps in assessing the effectiveness of climate policies and initiatives and making necessary adjustments.
- **Carbon Taxation:** It can facilitate the implementation of a progressive carbon tax system. This means that individuals and businesses with higher carbon emissions would pay more in taxes, incentivizing carbon reduction measures and promoting sustainability.
- **Integration with Economic Goals:** NCA can help integrate carbon reduction goals with economic development objectives. This ensures that economic growth is sustainable and doesn't come at the expense of exacerbating climate change.

Conclusion

- National Carbon Accounting is a holistic approach that addresses the complex and interconnected nature of the climate polycrisis.
- If adopted globally, NCA can facilitate international cooperation on climate action. Standardized carbon accounting methodologies would allow nations to compare their emissions and collaborate on global climate agreements more effectively.
- It aligns with the overarching goal of reducing carbon emissions and achieving net-zero targets, which is critical in addressing the climate polycrisis.

MCQ

Question: The increasing amount of carbon dioxide in the air is slowly raising the temperature of the atmosphere, because it absorbs: (UPSC 2012)

a.   the water vapor of the air and retains its heat
b.   the ultraviolet part of the solar radiation
c.   all the solar radiations
d.   the infrared part of the solar radiation

Answer: (d)

Dancing Frogs Of Western Ghats Among Most Threatened Amphibians Globally

Priority: Medium
Primary Source: Down To Earth
Relevance: Conservation, environmental pollution and degradation, environmental impact assessment
Prepp Prelims Booster: Dancing Frogs, Wildlife Trust of India
Prepp Mains Booster: Issues Related To Conservation of Amphibian Species

Context
- Recently, the Wildlife Trust of India (WTI) classified dancing frogs endemic to the Western Ghats as the most threatened amphibian genus of India.

What has the WTII said about dancing frogs?
- The dancing frogs are considered the most threatened amphibian species in India as two of the 24 species assessed were found to be critically endangered while 15 were classified as endangered.
- They are also the fifth most threatened amphibian genus globally, with 92% of the species falling in the threatened category.
- According to the IUCN Red List, 139 out of a total of 426 amphibian species in India are categorized as 'Critically Endangered,' 'Endangered,' or 'Vulnerable,'.
   o In the Western Ghats alone, 64 amphibian species are listed as endangered including dancing frogs, and night frogs (Nyctibatrachidae).

> ### Global Amphibian Assessment
> - The **Global Amphibian Assessment (GAA)** is a recurring initiative that comprehensively assesses all known amphibian species for the **IUCN Red List of Threatened Species (IUCN Red List).**
> - It relies on the contributions made by herpetologists from more than 100 countries.
> - The first GAA was completed in 2004 and revealed the extinction crisis faced by amphibians across the world.
> - It helped establish a baseline to monitor trends and measure the impact of conservation initiatives.
> - The 2nd edition of the GAA released in 2022 has revealed that the conservation status of the world's amphibians continues to deteriorate.

Dancing Frogs
- Frogs belonging to the **Micrixalus genus** are called dancing frogs.
   o One example is the **Kottigehar Dancing Frog or Kottigehar torrent frog**, which is found in the Western Ghats.
- **Habitat:** The frogs prefer habitats with **thick canopy cover (70-80% canopy cover)** near streams.
- **Foot flagging:** It is a distinctive mating behavior displayed by frogs of this species.
   o Males perform a dance-like display by stretching one hind leg at a time and waving their webbed toes in the air to attract mates and deter competitors.

   o This is done because their mating calls are lost in the noise of gurgling streams.

Threats
- The primary factors contributing to the decline of dancing frogs are anthropogenic stresses:
   o Invasive species like the mosquito fish
   o Land use changes,
   o Temperature and humidity variations,
   o Extreme weather events
   o Infectious diseases,
   o Pollution and
   o Infrastructure projects like dams.

What measures can be taken?
- To ensure the survival of the dancing frogs, their natural habitats and optimal living conditions must be preserved and protected
- The **Wildlife Trust of India's Amphibian Recovery Project in Munnar** is actively working to recover populations of threatened amphibians through a strategy involving:
   o **Threat Mitigation:** Identifying and addressing the risks faced by the species
   o **Conservation Action:** Implementing strategic conservation measures to safeguard habitats and populations
   o **Capacity Development and Training:** Developing knowledge and expertise and knowledge for the effective protection of amphibian species.
   o **Advocacy:** Awareness building on the conservation of these endangered species.
   o **Information Sharing:** Building a network that allows stakeholders to collaborate with each other to share critical information and experiences.

Role of frogs in the ecosystem
- Frogs are valuable in the food chain and also provide other ecological services.
- They feed on insects and pests which could adversely affect crop productivity.
- They help maintain the ecological balance by serving as an important link in the food chain in an ecosystem.

Conclusion
- Globally, more than 41% of amphibian species are threatened with extinction which makes efforts to conserve these species vital to maintain ecological balance and biodiversity.

Wildlife Trust of India

- The Wildlife Trust of India(WTI) is an Indian nature conservation organization.
- **Objective:** Work towards the protection of India's wildlife
  o Conserve nature, especially endangered species and threatened habitats by partnering with governments and communities.
- It was established in 1998 in New Delhi and is a registered charity in India.
- It comprises scientists, field biologists, conservation managers, veterinarians, lawyers, finance, business management, and communication specialists,
- **Priority areas:**
  o Northeast India
  o Western Himalayas,
  o Terai,
  o Southern Ghats system,
  o Central India
  o Terrestrial ecosystems.
- It partnered with the World Land Trust (WLT) to support India's wetlands and mangroves.
- **Activities:** Conflict mitigation, Enforcement, Natural heritage campaigns, Protected area recovery, Right of passage, Species recovery, Wild Aid and Rescue, and securing Wildlands

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In 4 Years, India Lost Over 30 Million Hectares Of Healthy Land To Degradation: UN Data

Priority: Medium
Primary Source: Down To Earth
Relevance: Conservation, environmental pollution and degradation, environmental impact assessment
Prepp Prelims Booster: United Nations Convention to Combat Desertification, Land Degradation
Prepp Mains Booster: Causes and Impacts of Land Degradation and Efforts to Tackle it

Context

- Recently, **the United Nations Convention to Combat Desertification (UNCCD) released its data on land degradation and desertification.**
- According to data from UNCCD, India has experienced a substantial loss of over 30 million hectares of healthy land to degradation from 2015 to 2019.

What is Land Degradation?

- Land degradation **refers to the long-term deterioration of the quality and productivity of the land, often as a result of various natural and human-induced factors.**
- It involves the decline in the land's capacity to support agriculture, vegetation, and other ecosystems.

- In arid, **semi-arid, and dry sub-humid regions, this phenomenon is specifically referred to as 'desertification.'**

What is the United Nations Convention to Combat Desertification (UNCCD)?

- The United Nations Convention to Combat Desertification (UNCCD) is an international agreement focusing on addressing the challenges posed by **desertification, land degradation, and drought.**
- It is **one of the three Rio Conventions** adopted at the **Earth Summit in 1992**, alongside the Convention on Biological Diversity (CBD) and the United Nations Framework Convention on Climate Change (UNFCCC).
- The primary goal of the UNCCD is to combat desertification and mitigate the effects of drought in countries experiencing serious drought and/or desertification, particularly in Africa, through effective action at all levels, supported by international cooperation and partnership arrangements.
- The UNCCD promotes good land management practices, aiming to restore the productivity of degraded land.
- Countries affected by desertification and drought are expected to create National Action Plans to address these issues and implement the convention's principles.
- The convention encourages international cooperation to combat desertification and land degradation. This includes partnerships between affected countries, donors, international organizations, and the private sector.
- The Global Environment Facility **(GEF)** is the financial mechanism for the UNCCD.
- The convention emphasizes the importance of community participation in combating desertification, acknowledging that local people are critical to implementing sustainable land management practices.

Key Findings

- **Land Degradation:** Between 2015 and 2019, 30.51 million hectares of land in India, equivalent to 9.45% of the country's total land area, was degraded. This is a significant increase from 4.42% in 2015.
- **Population Affected:** During this period, 18.39% of India's population, or 251.71 million people, were exposed to land degradation, and 854.4 million people experienced drought from 2015 to 2018.
- **Land Lost:** Globally, the world lost at least 100 million hectares of healthy land each year from 2015 to 2019.

- The data also shows that **India is working towards land degradation neutrality targets, but the progress is partial** and not all countries have reported on the status and trends.
- UNCCD emphasizes the **need for concerted action to combat land degradation in India and expresses commitment to work with the country to achieve Land Degradation Neutrality targets** and restore one billion hectares of healthy land by 2030.

Causes of Land Degradation and Desertification
Natural Factors

- **Climate change:** Climate change is leading to more extreme weather events, such as droughts, floods, and storms. These events can damage and erode soil, making it less productive.
- **Drought:** Drought is a prolonged period of abnormally low rainfall. It can cause soil to dry out and crack, making it more susceptible to erosion.
- **Wind erosion:** Wind erosion is the process by which wind picks up and transports loose soil particles. It is a major problem in dry and arid regions.
- **Water erosion:** Water erosion is the process by which water washes away soil particles. It is a major problem on sloping land and in areas with heavy rainfall.

Human Factors

- **Overgrazing:** It is the practice of allowing livestock to graze on an area of land at a rate that exceeds the land's capacity to support them. It can damage vegetation and soil, and it can lead to desertification.
- **Deforestation:** It is the clearing of forests for other uses, such as agriculture or development. It can lead to soil erosion and desertification.
- **Poor agricultural practices:** Agricultural practices, such as over-cultivation, monocropping, and excessive use of fertilizers and pesticides, can damage soil and reduce its fertility.
- **Urbanization:** It is the process of people moving from rural areas to cities. It can lead to land degradation and desertification through the expansion of urban areas into surrounding rural areas and the increased demand for resources such as water and fuelwood.

Impacts of Land Degradation and Desertification

- **Environmental Impacts:** Land degradation and desertification can lead to the loss of soil fertility, which can reduce crop yields and make it more difficult to grow food.
- It can also lead to the loss of biodiversity, as plants and animals that rely on healthy land are unable to survive.

- It can also increase the risk of natural disasters, such as floods and droughts. This can damage infrastructure, displace people, and lead to loss of life.
- **Economic Impact:** In 2014-15, land degradation in India resulted in an economic loss equivalent to more than 2% of the country's GDP, as reported by TERI (The Energy and Resources Institute).
- **Human Health Impacts:** Land degradation and desertification can lead to a number of health problems, including malnutrition, respiratory diseases, and water-borne diseases.
- **Societal Impacts:** It can lead to poverty, as people are unable to produce enough food to meet their needs.
- It can also lead to migration, as people are forced to leave their homes in search of better opportunities and can create social unrest and conflict, as people compete for scarce resources.

India's Efforts to Combat Land Degradation and Desertification

- **Integrated Watershed Management Programme**: With the development of Rural Employment, it strives to restore ecological balance by harnessing, preserving, and developing deteriorated natural resources.
- It is now part of the **Pradhan Mantri Krishi Sinchai Yojana**, which is being implemented by the National Institution for Transforming India (NITI Ayog).
- **Desert Development Programme:** It began in 1995 with the goal of reducing the negative effects of drought and revitalising the natural resource base of the selected desert areas.
- It was designed for the scorching deserts of Rajasthan, Gujarat, and Haryana, as well as the frigid deserts of Jammu and Kashmir and Himachal Pradesh.
- **United Nations Convention to Combat Desertification (UNCCD):** In 1994, India signed the UNCCD, which it ratified in 1996. By 2030, India plans to rehabilitate 26 million hectares of degraded land.
- **National Afforestation Programme:** It has been implemented since 2000 for the afforestation of degraded forest lands. It is being implemented by the Ministry of Environment, Forest and Climate Change.
- **National Action Programme to Combat Desertification:** It was prepared in 2001 to address issues of increasing desertification and to take appropriate actions.
- **National Mission on Green India:** It was approved in 2014 with the objective of protecting, restoring and enhancing India's diminishing forest cover with a deadline of 10 years.

What are the Global Efforts?

- **The Bonn Challenge:** It is a global goal to bring 350 million hectares of degraded and deforested landscapes into restoration by 2030.
- **Great Green Wall Initiative:** It was launched in 2007 by the African Union, being implemented across 22 African countries. Its aim is to restore the continent's degraded landscapes and transform millions of lives in the Sahel.
- **Goal 15 of Sustainable Development Goal, 2030 (SDG 15):** The goal states its dedication to protect the earth from destruction, especially through sustainable consumption and production.
- **United Nations Convention to Combat Desertification (UNCCD):** It is an international treaty that aims to combat desertification. It is the only legally enforceable international agreement combining environment and development with sustainable land management, having been formed in 1994.
- **World Day to Combat Desertification and Drought:** Every year on June 17th, the World Day to Combat Desertification and Drought is commemorated.

Conclusion

As we confront the pressing issue of land degradation in India, it becomes clear that collaborative efforts are imperative to protect our precious natural resources. The impacts of land degradation extend beyond the environment, impacting the lives and prosperity of millions. The UNCCD is steadfast in its commitment to partnering with India to expedite the achievement of Land Degradation Neutrality objectives and the restoration of one billion hectares of healthy land by 2030.

MCQ

Question: The government of India encourages the cultivation of 'sea buckthorn'. What is the importance of this plant? **(UPSC 2012)**

1. It helps in controlling soil erosion and in preventing desertification.
2. It is a rich source of biodiesel.
3. It has nutritional value and is well-adapted to live in cold areas of high altitudes.
4. Its timber is of great commercial value.

Choose the correct answer using the following codes.

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

New Damselfly Species Found In Western Ghats

Priority: Medium
Primary Source: Down To Earth
Relevance: Conservation, environmental pollution and degradation, environmental impact assessment
Prepp Prelims Booster: Armageddon Reedtail
Prepp Mains Booster: Concerns Associated with Insect Population in Western Ghats

Context

- Recently A new damselfly species has been discovered near Thiruvananthapuram in Kerala's southern Western Ghats and it is named '**Armageddon Reedtail**' or '**Protosticta Armageddonia'** by the researchers. **The term armageddon signifies the apocalypse or ending of something.**

What is this species and why is it named so?

- **Name:** **Armageddon Reedtail (Protosticta Armageddonia)**
- **Habitat:** Primary montane streams
- **Other features:** It has a captivating dark brown to black body with vibrant greenish-blue eyes, and half of its eight abdominal segments are marked with delicate pale blue markings.
- The term '**ecological armageddon**' while describing the species is used to bring focus on the devastating decline of insect populations around the world.
- This phenomenon, also called **insect apocalypse**, affects entire ecosystems.

About Damselfly

- These are insects in the suborder **Zygoptera** (meaning "**paired-wings**").
- These are found mainly near **shallow, freshwater habitats** and are graceful fliers with slender bodies and long, filmy, **net-veined wings**.
- These are generally smaller, more delicate, and fly weakly in comparison with dragonflies.
- Female damselflies normally use a **bladelike ovipositor to place eggs** inside plant tissue.
- In many species of Damselflies **adults change colour as they mature**.

Reasons for decline in the population of insects

Habitat Loss:

- It takes place as natural habitats are being converted to human utilisation areas such as **agriculture areas, urban areas and for infrastructure development.**
- It leads to Habitat destruction, Habitat degradation and Habitat fragmentation.

Intensive use of pesticides and herbicides:

- The **excessive use of fertilisers and synthetic pesticides** in agricultural practices resulted in deaths of insects at large scale due to heavy dose and high **toxicity** of pesticides.

Pollution:

- The aerial **nitrogen and other pollutants' over deposition** is a harmful pollutant affecting butterflies and other insects.

Light Pollution:
- **Light pollution** also acts as a driver of nocturnal insect decline in suburban and urban locations.
- Other than these **harmful chemicals and fumes** also impact negatively on biological processes of insects.

Invasive alien species:
- When **alien species** are introduced in the habitat ecosystem of insects it results in the decline of the insect population because of **high competition, food loss, habitat loss, etc.**

Climate change:
- Climate change triggered multiple factors such as **sea level rise, rise in temperature, ocean acidification, acid rain etc.**
- These factors can cause **genetic variation, behavioural change, change in hatching period of eggs, decrease climate susceptibility** etc and also may cause fall in population numbers.

Importance of Insects in the Ecosystem
- Insects **break down debris in aquatic ecosystems** such as wetlands, ponds, creeks, and streams, contributing to cleaner water for people, wildlife, and plants.
- Insects **help in the process of pollination** of plants and trees as they **disperse seeds** from one place to another.
- They are the **source of nutrition** for more than 90% of birds.
- **Predatory insects** increase crop yields by keeping weeds and pest species (caterpillars, spiders, and crickets) in check.
- By breaking down and burying animal waste insects can **reduce overall methane emissions on dairy and beef farms.**
- Many insect species are voracious **predators of mosquitoes**—which are vectors for various infectious diseases—with some dragonflies consuming hundreds in a single day.

Researchers Identify A New Mushroom Species From The Western Ghats

Priority: Medium
Primary Source: Down To Earth
Relevance: Biodiversity & Conservation
Prepp Prelims Booster: Mushrooms, Western Ghats
Prepp Mains Booster: Issues Related to the Biodiversity of the Western Ghats

Context
- Recently, a **new species of mushroom has been discovered** on the campus of the **Jawaharlal Nehru Tropical Botanic Garden and Research Institute (JNTBGRI)** at Palode in Kerala, India.
- This **discovery highlights the remarkable biodiversity of the Western Ghats region and the need for further research on its fungal diversity.**

What are Mushrooms?
- **Mushrooms are a diverse group of fungi which come in various shapes, sizes, and colors,** and they can be found in a wide range of habitats around the world.
- Mushrooms are fungi, which means they are not plants or animals. They **belong to the kingdom Fungi.**
- Mushrooms **play essential roles in ecosystems.** They are important decomposers, breaking down dead organic matter and recycling nutrients.
- **Certain mushrooms have been used for medicinal purposes** in various cultures, and some are known for their potential health benefits.

Discovery of a New Mushroom Species
- **Genus Candolleomyces:** The mushroom has been named as Candolleomyces albosquamosus. It is tiny, delicate, and has a honey-yellow cap. It is part of the genus Candolleomyces, which has only 35 species worldwide.
- **Structure:** It has a white woolly scale-like structure on its cap. It is a small mushroom, reaching a height of approximately 58 mm, with a bell-shaped cap that changes color from honey-yellow to brownish-gray with age. The stem is cylindrical and white.
- **Habitat:** Candolleomyces albosquamosus is typically found in its natural habitat on decaying logs or bamboo culms in forested areas.

Significance for Biodiversity in the Western Ghats
- **Biodiversity Documentation:** The identification of a new mushroom species adds to the growing documentation of the diverse flora and fauna in the Western Ghats, a biodiversity hotspot. It showcases the richness of this region and the need for its preservation.
- **Fungal Diversity:** Fungi, like Candolleomyces albosquamosus, are often understudied compared to more prominent species. This discovery underscores the presence of a wide variety of fungi in the Western Ghats, contributing to a more comprehensive understanding of the region's biodiversity.
- **Endemism:** The Western Ghats is known for its high levels of endemism, with many species found only in this region. Discovering new species, such as this

mushroom, emphasizes the unique and specialized nature of the area's ecosystems.

- **Ecological Role:** Fungi play a crucial role in forest ecosystems, particularly in the decomposition of plant litter. The discovery highlights the importance of understanding and conserving these organisms, as they contribute to nutrient cycling and ecosystem health.
- **Research and Conservation:** This finding encourages further research and conservation efforts in the Western Ghats to protect the various fungal species and their habitats. It underscores the need to preserve the entire ecosystem for a balanced and healthy environment.

About Western Ghats

- The **Western Ghats is one of the eight hotspots of biological diversity in the world and is spread across six states**—Gujarat, Maharashtra, Goa, Karnataka, Tamil Nadu and Kerala.
- It is a UNESCO World Heritage site. It is **one of the eight "hottest hot-spots" of biological diversity in the world.**
- According to UNESCO, the Western Ghats are older than the Himalayas. It stretches from Tapi valley to Kanyakumari.
- Since they are continuous without any major breaks, hence it is very difficult to pass through them.
- However, the western ghats do have passes such as the Bhor ghat, Pal ghat, and Thal ghat which makes it possible to travel through the western ghats despite the fact that they are continuous.
- The western ghats consist of evergreen forests too, however, the main crop grown there is the Coffee.
- The **highest peak in the Western Ghats is Anaimudi** and its elevation is 2695 meters or 8842 ft. It is known as Everest of South India. The name Anaimudi translates as Elephant's head. It is located at the border of Ernakulam and Idukki District of Kerala.
- **It is divided into three sections:**
  o Northern Western Ghats
  o Middle Sahyadri (Central Western Ghats)
  o Southern Western Ghats

Jawaharlal Nehru Tropical Botanic Garden and Research Institute (JNTBGRI)

- JNTBGRI, formerly known as Tropical Botanic Garden and Research Institute is an autonomous institute established by the Government of Kerala at Palode in Thiruvananthapuram district.
- It was founded in 1979 with the objective of establishing a Conservatory Botanic Garden of tropical plant resources in general and of the country and the Kerala state in particular.
- It also undertakes research programmes for the sustainable utilization of the resources.
- It is a recognized centre for research on orchids by the Ministry of Environment & Forests, Government of India.

MCQ

Question: Consider the following statements: **(UPSC 2023)**

1. Some mushrooms have medicinal properties.
2. Some mushrooms have psycho- active properties.
3. Some mushrooms have insecticidal properties.
4. Some mushrooms have biolumi- nescent properties.

How many of the above statements are correct?

a. Only one
b. Only two
c. Only three
d. All four

Answer: (d)

Question: With reference to "Gucchi" sometimes mentioned in the news, consider the following statements: **(UPSC 2022)**

1. It is a fungus.
2. It grows in some Himalayan Forest areas.

3. It is commercially cultivated in the Himalayan foothills of north-eastern India.

Which of the statements given above is/are correct?

a. 1 only
b. 3 only
c. 1 and 2
d. 2 and 3

Answer: (c)

Health (GS Paper Prelims) & GS Paper II(Main)

Palliative Care, A Way To Reduce Financial Distress For People With Life Limiting Diseases

Priority: High

Primary Source: The Hindu

Relevance: Issues Relating to Development and Management of Social Sector/Services relating to Health.

Prepp Prelims Booster: Noncommunicable diseases (NCDs)

Prepp Mains Booster: Issues related to Health, Palliative Care

Context

- Recently, it has been observed that **India is witnessing a growing prevalence of non-communicable diseases, and a significant number of patients** suffering from conditions such as cancer, cardiac disease, renal failure, or stroke will eventually progress to incurable stages which is creating need for Palliative Care.

What is Palliative Care?

- Palliative care is a **form of medical care that prioritizes enhancing the quality of life for individuals with serious illnesses.**
- It **aims to alleviate suffering, identify excessive and ineffective medical treatments, and address physical, psychological, spiritual, and social needs** in conditions such as heart failure, kidney failure, neurological diseases, and cancer, among others.
- According to WHO, **each year an estimated 40 million people are in need of palliative care, 78% of whom live in low- and middle-income countries,** and worldwide only about 14% of people who need palliative care currently receive it.
- It is estimated that **nearly 5.5 crore people fall below the poverty line every year due to out-of-pocket healthcare expenditure.** Out of these, 3.8 crore people become poor only because of the expenditure on medicines.

The Rising Cost of Health

- Despite **just 1.35% of GDP allocated to government health services, patients bear most expenses,** even in government hospitals due to travel costs, medicine purchases, and lost wages.
- A study in India revealed significant expenses: **cancer patients spend ₹8,035 per outpatient visit and ₹39,085 per hospitalization,** while **outpatient visits for diabetes and hypertension cost ₹4,381 and ₹1,427, respectively.**
- The financial burden often forces caregivers to sell assets and halt children's education, with over 65% of last-stage cancer patients facing impoverishment due to healthcare costs.

Status of Palliative Care in India

- Palliative care in India is primarily available in urban areas and at tertiary healthcare facilities. **Only 1-2% of the estimated 7-10 million people in India who need palliative care have access to it.**
- **Status of Non-Communicable Diseases in India:** A study by Indian Council of Medical Research (ICMR) estimated that the proportion of deaths due to NCDs in India have increased from 37.9% in 1990 to 61.8% in 2016. According to WHO, over 60.46 lakh people died due to NCDs in India in 2019.

What are the Challenges?

- **Lack of Awareness:** There is a significant lack of awareness about palliative care among both healthcare workers and the general public in India. Many people equate palliative care with end-of-life care and are unaware of its holistic approach to improving the quality of life for patients with serious illnesses.
- **Limited Insurance Coverage:** Palliative care is not covered under most insurance schemes in India. This lack of coverage can create a financial burden on patients and their families, making it difficult for them to access these services.
- **Inadequate Funding:** Palliative care services in public health centers are often underfunded and not consistently supported. The lack of a reliable funding mechanism makes it challenging to provide these services consistently and plan for long-term sustainability.
- **Unavailability in Public Health Centers:** Despite its inclusion in the Ayushman Bharat program, the provision of palliative care services in primary and secondary health centers remains a distant reality. This lack of infrastructure and trained healthcare providers in these centers hinders access to palliative care.
- **Private Healthcare Prioritization:** The increasingly privatized Indian healthcare system tends to prioritize profit-generating specialties over palliative care, which is viewed as an expense-saving service. As a result, palliative care services are not widely available in the private sector.
- **Training and Workforce Shortages:** India faces a shortage of trained palliative care professionals, including doctors, nurses, and counselors. Addressing this gap is essential to providing quality palliative care services.
- **Integration with Existing Healthcare Systems:** Integrating palliative care into existing healthcare systems, especially in a country as diverse and large as

India, presents logistical challenges. Coordinating care across different regions and healthcare facilities can be complex.

Significance of Palliative Care

- **Enhancing Quality of Life:** Palliative care focuses on enhancing the quality of life for individuals with life-limiting conditions such as cancer, end-stage kidney disease, and severe brain disorders. It distinguishes itself by addressing uncontrollable symptoms, reducing unnecessary medical interventions, and considering social and economic factors.
- **Economic Benefits of Early Palliative Care:** Early introduction of palliative care for advanced diseases has the potential to reduce healthcare costs by as much as 25%. Palliative care is administered through outpatient, inpatient, and home-based services, alleviating the financial burden of travel for home-bound patients.
- **Holistic Approach:** Palliative care not only attends to the physical well-being but also considers the social and economic aspects of patients and their families.
- **Empowering Patients with Vocational Support:** It incorporates vocational rehabilitation and social reintegration, offering opportunities for self-sufficiency and dignity. Vocational support, such as teaching basic skills or small-scale animal husbandry, helps patients generate income.

Palliative Care Program in India

- **The National Programme for Prevention & Control of Cancer, Diabetes, Cardiovascular Diseases & Stroke (NPCDCS), now known as the National Programme for Prevention & Control of Non-Communicable Diseases (NP-NCD),** focuses on chronic illnesses that contribute significantly to healthcare expenses.
- These diseases reach a stage where palliative care becomes more important than curative treatment.
- It was launched in 2010 to address the growing burden of noncommunicable diseases in the country, the program aimed to provide promotive, preventive, and curative healthcare services across all levels of care, from primary to tertiary institutions, ensuring a comprehensive approach to healthcare delivery.

Measures

- **Funding and support:** The National Programme for Palliative Care (NPPC) must be provided with funds, personnel, and infrstructure at the state level to ensure efficient functioning and monitoring of palliative activities.
  - Other NGOs in the sector such as Pallium India must also be supported and encouraged in providing services to all those in need of palliative care.
  - Impact assessments should be carried out regularly to ensure effectiveness of programmes.
- **Setting of standards:** Standards and regulations for quality control and palliative care services must be formulated at the national level following the global benchmark.
  - The recommendations of the 67th World Health Assembly to incorporate palliative care within all levels of the healthcare system must be adopted at the earliest.
  - This will help ensure that patients are provided with optimal treatment and suffer as less as possible.
- **Training and upskilling:** It is necessary for volunteers and professionals in the palliative care sector to be provided proper education and training on handling all situations that could arise.
  - This will help improve the quality of care and reduce the burden on tertiary healthcare centers.
- **Integration:** The sphere of palliative care must be widened to include more diseases and services.
  - Palliative care needs to be integrated into health systems at all levels and included alongside curative treatment.
  - Various levels of healthcare professionals in the palliative care sector must be integrated in order to ensure that patients are provided with the best quality of care.
- **Access to medications:** Access to opioids and other essential medications for pain management in palliative care must be ensured to improve their quality of life.
- **Public awareness:** Stakeholders must promote awareness about palliative care and foster a more compassionate and supportive environment for palliative care.
- **Rehabilitation:** Rehabilitation and social support services within palliative care programs must be focussed on so that the overall well-being of patients and their families can be ensured.

Conclusion

Palliative care in India faces numerous challenges, including limited awareness, inadequate funding, and a shortage of trained professionals. These challenges are exacerbated by the rising cost of healthcare, which pushes many patients and their families into poverty. Nevertheless, the significance of palliative care in enhancing the quality of life for individuals with serious illnesses cannot be understated. Integrating palliative care into existing healthcare systems and improving accessibility are crucial steps to address the growing prevalence of non-communicable diseases in India.

> **What are Noncommunicable diseases (NCDs)?**
> - NCDs also **known as chronic diseases, tend to be of long duration** and are the result of a combination of genetic, physiological, environmental and behaviours factors.
> - **The main types of NCDs are cardiovascular diseases** (like heart attacks and stroke), cancers, chronic respiratory diseases (such as chronic

obstructive pulmonary disease and asthma) and diabetes.

Previous Year Mains Question:
1. Appropriate local community-level healthcare intervention is a prerequisite to achieve 'Health for All' in India. Explain. **(UPSC 2018)**

PYQ
Question: In the context of hereditary diseases, consider the following statements: **(UPSC 2021)**
1. Passing on mitochondrial diseases from parent to child can be prevented by mitochondrial replacement therapy either before or after in vitro fertilization of the egg.
2. A child inherits mitochondrial diseases entirely from mother and not from father.
Which of the statements given above is/are correct?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2
Answer: (c)

Lao PDR Becomes Second Country In 2023 After Bangladesh To Eliminate Lymphatic Filariasis

Priority: High
Primary Source: Down To Earth
Relevance: Issues relating to development and management of Social Sector/Services relating to Health, Current Events of International Importance
Prepp Prelims Booster: Lymphatic Filariasis, Neglected Tropical Diseases, WHO
Prepp Mains Booster: Issues Related To Neglected Tropical Diseases and Strategies to Tackle the,

Context
- Recently, the WHO announced that the Lao People's Democratic Republic had officially eliminated lymphatic filariasis.
- This was the second neglected tropical disease (NTD) eliminated by the country following the elimination of trachoma as a public health hazard in 2017.

What is Lymphatic Filariasis?
- Filariasis caused by nematodes that live in the human lymph system is called Lymphatic Filariasis (LF)·
- **Lymphatic filariasis, or elephantiasis, is a neglected tropical disease** that is caused by a parasitic infection spread transmitted through mosquito bites. and

causes abnormal enlargement of body parts, leading to chronic pain and disability.
- LF is prevalent in tropical and subtropical regions, with India accounting for 40% of all global LF cases.
- It is the world's second leading cause of long-term disability, imposing severe social and economic burden on the affected, their families adn communities despite the low mortality associated with the disease.
- Over 40million people are severely disfigured and disabled by filariasis while 76 million are apparently normal but have hidden internal damage to lymphatic and renal systems.
- According to the WHO, India, Indonesia, Nigeria and Bangladesh account for about 70% of the worldwide infections.

Symptoms:
- Every three people who have lymphatic filariasis don't have severe symptoms. But filariasis usually leads to a weakened immune system.
- **Some people may experience:**
  o Inflammation — an overactivated immune system.
  o Lymphedema — fluid buildup in your lymphatic system.
  o Hydrocele — swelling and fluid buildup in the scrotum.
  o Edema — swelling and fluid buildup in your arms, legs, breasts and female genitals (vulva).
- **Recommended treatment:** The WHO recommended treatment is **IDA (ivermectin, diethylcarbamazine citrate, and albendazole)** for two consecutive years.

WHO progress report on Lymphatic Filariasis
- The recent **WHO progress report on Lymphatic Filariasis (LF)** revealed that **Lao PDR** became the second country to eliminate LF in 2023 after **Bangladesh.**
- At present, 19 countries have successfully eliminated LF of which 11 belong to the **WHO Western Pacific Region,** including Lao PDR.
  o Four countries in the **WHO South-East Asia region** - **Bangladesh, the Maldives, Sri Lanka, and Thailand** - have eliminated LF.
  o Two countries in the **WHO Africa Region - Malawi and Togo** - and one in the **WHO Eastern Mediterranean Region - Yemen** - have also eliminated the disease.
- The **Global Programme to Eliminate Lymphatic Filariasis (GPELF)** launched in 2000 has helped reduce the global population requiring LF interventions has decreased by 53% in the last fifteen years.
- According to the WHO report, 10 countries have stopped national Mass Drug Administration (MDA).
  o This is an indicator that Benin, Cameroon, Eritrea, Mali, Sao Tome and Principe, Uganda, Brazil, Dominican Republic, Timor-Leste, and Brunei Darussalam are on the right track but have not yet met the criteria for validation.
  o Kenya has also made progress and the country's MDA strategy can be stopped soon.

Mass Drug Administration

- Mass drug administration is the most effective method for halting the transmission of the disease by treating residents of LF-endemic areas.
  - The **WHO has recommended multiple rounds of MDA, covering around 65% of the population.**
  - The WHO has recommended a combination of **ivermectin, diethylcarbamazine, and albendazole (IDA).**
- MDA has enabled more than 935.5 million individuals in 72 LF-endemic countries to receive more than 9.3 billion cumulative treatments since 2000.
- **Global disease burden:** 794 million people, required MDA for the treatment of LF globally in 2022.
  - Only 326 million people or 41% of the 794 million people who needed MDA in 2022, were treated globally.
- **Disease burden in India: More than half of the people requiring MDA for the treatment of LF in 2022 were from India.**
  - However, **only 152.2 million people, or 34% received treatment** in the country, according to a WHO report.

Status of Lymphatic Filariasis in India
- In India, indigenous lymphatic filariasis cases are reported from 20 States/UTs - Andhra Pradesh, Assam, Bihar, Chhattisgarh, Goa, Gujarat, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Tamil Nadu, Uttar Pradesh, West Bengal, Puducherry, Andaman & Nicobar Islands, Daman & Diu, Lakshadweep and Dadra & Nagar Haveli.
- Out of these regions, 250 districts with an at-risk population of 600 million have been identified as endemic for filariasis.
- **States which are free from indigenously acquired filarial infection:**
  - The North-Western States/UTs - Jammu & Kashmir, Himachal Pradesh, Punjab, Haryana, Chandigarh, Rajasthan, Delhi, Uttaranchal
  - North-Eastern States - Sikkim, Arunachal Pradesh, Nagaland, Meghalaya, Mizoram, Manipur and Tripura

Control of Lymphatic Filariasis In India
- **National Filaria Control Programme:** It was launched in 1955 with operational, training and research components.
  - **Strategies:** Vector control, detection and treatment of filarial cases, and delimitation of endemic areas.
  - This is being carried out through control units, night clinics and survey teams.
  - This programme continues to be in place, in addition to the programme to eliminate LF in India.
- In **2023, India launched a nationwide MDA campaign** aimed at ending disease transmission via door-to-door administration of anti-filarial drugs in Bihar, Chhattisgarh, Jharkhand, Maharashtra, Uttar Pradesh, West Bengal, Karnataka, Odisha, Madhya Pradesh, and Andhra Pradesh.
- **India aims to eliminate Lymphatic Filariasis by 2027** Collaboration with stakeholders through **"Jan**

Bhagidari" "Whole of Society" and **"Whole of Government"** approaches.
- The Government of India has also unveiled a **five-pronged strategy** for elimination of LF as shown in the figure below.

Elimination of NTDs
- **Neglected Tropical Diseases (NTDs)** is a term used to describe a group of infections that are most common among marginalized communities in the developing regions of Africa, Asia, and the Americas.
- They are **considered "neglected" because they generally receive less funding for research and treatment when compared to tuberculosis, HIV-AIDS, and malaria.**
- The elimination of NTDs by 2030 is one of the primary objectives of **SDG 3 i.e. health for all.**
- Although they are preventable and treatable, they have health, social, and economic consequences on account of their interrelationships with poverty and ecological systems.
- **Cause:** Pathogens like viruses, bacteria, protozoa, and parasitic worms.
- **Affected areas:** NTDs are common in tropical areas with inadequate access to clean water or safe human waste disposal systems.
- **Examples: snakebite envenomation, scabies, yaws, trachoma, Leishmaniasis, Chagas disease, etc.**
- **Global NTD scenario:** Nearly 1.7 billion people across the world are affected by around 20 NTDs that impact over 1.7 billion people worldwide.
  - **India also has a large burden of NTDs like kala-azar and lymphatic filariasis and eliminated NTDs like guinea worm, trachoma, and yaws.**

Indian initiatives:
- **APELF: The Accelerated Plan for Elimination of Lymphatic Filariasis** was launched in 2018 to accelerate efforts towards the elimination of NTDs.
- **WHO-supported regional alliance:** India, Bangladesh, and Nepal established a regional alliance in 2005 with support from the WHO to fast-track early diagnosis and treatment of vulnerable populations and improve disease surveillance.

WHO Roadmap for NTDs 2021-2030

- It covers measuring process and impact, disease-specific planning and programming for inter-sector collaboration and country-owned and financed programs.
- **It has set a target of eliminating LF in 23 countries by 2023.**

UPSC Mains Practice Questions

Q.1) Can overuse and the availability of antibiotics without a doctor's prescription, the contributors to the emergence of drug-resistant diseases in India? What are the available mechanisms for monitoring and control? Critically discuss the various issues involved. **(UPSC GS2 2014)**

MCQs

Question: Consider the following statements:
1. Tapeworm is a hermaphrodite.
2. Round-worm has separate sexes.
3. Filaria is caused by a nematode.
4. Guinea-worm is an annelid.
Which of these is/are correct? **(UPSC CSE 2001)**
a.   1 and 2
b.   1, 2 and 3
c.   3 and 4
d.   2, 3 and 4
Answer: (b)

Question: Match List-I with List-II and select the correct answer by using the codes given below: (UPSC CSE 1997)
List- I   List-II
A. Malaria   1. Bone marrow
B. Filaria   2. Brain
C. Encephalitis   3. Muscle
D. Leukaemia   4. Lymph node
5. Blood cells
a.   A − 5; B − 3; C − 2; D − 1
b.   A − 5; B − 4; C − 2; D − 1
c.   A − 4; B − 3; C − 5; D − 1
d.   A − 5; B − 4; C − 1; D − 2
Answer: (b)

Question: Consider the following diseases :
1.   Diphtheria
2.   Chickenpox
3.   Smallpox
Which of the above diseases has/have been eradicated in India? (UPSC CSE 2014)
a.   1 and 2 only
   b.   3 only
   c.   1, 2, and 3
   d.   None
Answer: (b)

Ethics GS Paper IV(Main)

Case Study: Balancing Reproductive Rights and Fetal Interests in India

Priority: Medium
Primary Source:
Relevance: Ethical concerns and dilemmas in government and private institutions; laws, rules, regulations and conscience as sources of ethical guidance; accountability and ethical governance; strengthening of ethical and moral values in governance
Prepp Prelims Booster:
Prepp Mains Booster: Ethical Concerns Related To Reproductive Rights

Problem statement: In a recent judgment, the Supreme Court denied a woman's plea for an abortion at 26 weeks, emphasizing the "rights of the unborn child." The woman cited physical, emotional, mental, financial, and medical reasons for her request. However, the Court's verdict was in contrast to the X v NCT case, raising questions about the consistency of legal interpretations regarding reproductive rights and fetal interests.

- In recent years, the Indian legal landscape has witnessed a significant shift in the interpretation of reproductive rights and fetal interests. The Medical Termination of Pregnancy (Amendment) Act 2021, which amended the 1971 Act, expanded the gestational limit for medical abortion and recognized the importance of preserving women's autonomy over their bodies. However, a recent Supreme Court verdict has brought forth new challenges in balancing these rights. This case study explores the evolving legal framework surrounding reproductive choices and its implications for women's rights and fetal interests in India.

Medical Termination of Pregnancy (MTP) Act, 1971

- The Medical Termination of Pregnancy (MTP) Act, 1971, governed the conditions under which pregnancies could be legally terminated in India. In 2021, the MTP Act was amended to address the need for greater reproductive rights for women and to align with international best practices.

The key provisions of the amendment included:

- Increasing the gestational limit for abortion up to 20 weeks.
- Creating a "special category" of women, including rape survivors, victims of incest, differently-abled women, and minors, allowing abortion up to 24 weeks for this group.
- The requirement for the opinion of one medical practitioner for abortions up to 20 weeks and two medical practitioners for abortions between 20 to 24 weeks.
- The establishment of Medical Boards to evaluate pregnancies beyond 24 weeks due to fetal abnormalities.
- Emphasizing confidentiality and expanding the locations where abortions could take place.

Time since conception	Requirement for terminating the pregnancy	
	MTP Act, 1971	**MTP (Amendment) Act, 2021**
Up to 12 weeks	Advice of 1 doctor	Advice of 1 doctor
12-20 weeks	Advice of 2 doctors	Advice of 1 doctor
20-24 weeks	Not allowed	2 doctors for some categories of pregnant women
More than 24 Weeks	Not allowed	Medical Board in case of substantial foetal abnormality
Any time during the pregnancy	One doctor, if immediately necessary to save a pregnant woman's life.	

Supreme Court Verdict – Case of X v NCT of Delhi

- In the case of X v NCT of Delhi, the Supreme Court made a landmark judgment that recognized a woman's right to make reproductive choices as an essential facet of her personal liberty. The judgment stated that a woman's autonomy over her body falls within the scope of the right to personal liberty, dignity, privacy, bodily integrity, and the right to make choices under Article 21 of the Indian Constitution. In this case, a 20-year-old woman, a rape survivor, sought an abortion after 20 weeks of gestation. The Court allowed the termination of her pregnancy, even though it exceeded the statutory limit, considering her autonomy and the traumatic circumstances of her pregnancy.

Stakeholders:
1. **Women Seeking Abortions:**
   o Have a vested interest in exercising their reproductive rights.
   o Their physical, emotional, and mental well-being is directly affected by legal decisions regarding abortions.
2. **Medical Professionals:**
   o Play a crucial role in providing abortion services and are responsible for adhering to legal requirements.
   o Must navigate the evolving legal landscape while considering the well-being of their patients.
3. **Legal Authorities:**
   o Responsible for interpreting and implementing laws related to abortions.
   o Their decisions and interpretations significantly impact women's access to reproductive choices.
4. **Policymakers:**
   o Craft and amend legislation related to reproductive rights and fetal interests.
   o Must balance societal, ethical, and medical considerations when making or amending policies.

5. **Society at Large:**
   o Represents public opinion and societal norms.
   o Influences policymakers, legal authorities, and the overall discourse on reproductive rights.

Ethical dimensions involved

The case of "Balancing Reproductive Rights and Foetal Interests in India" involves several ethical dimensions, reflecting the complex interplay between individual rights, societal values, and medical considerations. Key ethical dimensions involved are:

1. **Autonomy and Freedom of Choice:** The foremost ethical dimension is the autonomy and freedom of choice of women. It centers on an individual's right to make decisions about their own body, including choices related to pregnancy and abortion. The case raises questions about how much autonomy women should have in making these deeply personal decisions.
2. **Right to Life (Article 21):** The case prompts ethical discussions about when life begins and how this notion affects the rights and interests of the foetus. Which shows concerns revolving around the balance between a woman's right to autonomy and the potential right to life of the unborn child.
3. **Equality and Gender Stereotypes:** Denial of abortion can reinforce traditional gender stereotypes by suggesting that women should prioritize the interests of the foetus over their own. The ethical issue is about ensuring equal treatment of individuals regardless of their gender and not imposing gender-based expectations.
4. **Counseling:** Concern about whether women are provided with accurate information and counseling to make informed decisions regarding their pregnancies. It is rooted in the principles of honesty, transparency, and ensuring individuals can make choices based on complete and accurate information.
5. **Access to Safe Healthcare:** Ethically, there is a responsibility to ensure that women have access to safe and legal healthcare services, including abortion. which revolves around the ethical imperative of protecting women from resorting to unsafe abortions that can endanger their lives.'
6. **Medical Ethics:** Medical professionals play a crucial role in the case. The ethical dimension pertains to their obligations to provide the best care to patients while adhering to legal requirements and respecting patient autonomy and confidentiality
7. **Pro Life vs Pro choices:** The ethical dimension here relates to the need to balance global debates on pro-life vs. pro-choice stances with the specific cultural, social, and medical conditions in India. It involves respecting cultural diversity while upholding universal human rights principles.

Limitations of the SC Judgment

- **Discrepancy with Past Precedents**: The current verdict is at odds with the Supreme Court's earlier decision in X v NCT, which acknowledged a woman's right to choose.
- **Questioning the Woman's Mental Health Claims**: The Court questioned the authenticity of the prescriptions presented by the woman as evidence of her postpartum psychosis. The Court's skepticism might discourage other women from approaching the judiciary in the future due to fear of their claims being dismissed.
- **Undefined Rights of the Foetus**: The rights or interests of the foetus under Indian law remain ambiguous. Pitting these against a woman's right to autonomy without clearly defined parameters can lead to subjective interpretations in the future.
- **Over Reliance on Medical Termination of Pregnancy Act**: The Court leaned heavily on the Medical Termination of Pregnancy Act, 1971, to justify its decision. However, the Supreme Court, with its power to do 'complete justice', has shown flexibility in past cases even when the text of the law didn't explicitly allow for it.
- **Undermining Women's Autonomy**: The verdict seems to place more importance on the viability and health of the foetus than on a woman's autonomy, well-being, and socio-economic implications of carrying the child to term.
- **Influence of Global Discourse**: The Court's verdict reflects global pro-life vs. pro-choice debates, which might not be entirely relevant in the Indian context.
- **Underestimating Social and Medical Implications**: The Court seemed to overlook the broader implications of denying abortion, which can include pushing women toward unsafe abortions and the associated health risks.
- **Impact on Women's Right to Equality**: Denial of abortion reinforces gender stereotypes and has broader implications on women's right to equality.
- **Foetal Viability Argument**: The argument that the foetus is "a viable baby with a reasonable chance of survival" introduces a concept that historically hasn't been a part of Indian abortion law discussions. This could potentially influence future decisions.

What is the Concept of Foetal Viability?
- Foetal viability refers to the point in foetal development at which the foetus is capable of surviving outside the womb.
- It implies that if the foetus were to be born (either naturally or through a medical procedure), it has a reasonable chance of survival with or without medical assistance, depending on the stage of development.
- It's crucial to understand that the concept of viability doesn't have a strict gestational age threshold that applies universally. Instead, it's a spectrum. As

gestational age increases, so does the likelihood of survival.
- Additionally, what's considered viable in one medical setting or part of the world may differ from another due to variations in available medical technologies and expertise.
- From a legal and ethical standpoint, foetal viability has been used as a benchmark in many jurisdictions to determine the legality of certain abortions, as well as to inform medical decisions about intensive interventions and the rights and best interests of the foetus.

Pro-life vs Pro-choice

The concepts of "Pro-life" and "Pro-choice" refer to two opposing views on the issue of abortion.

Aspect	Pro-life	Pro-choice
Basic Belief	Belief that human life begins at conception (or shortly thereafter).	Advocacy for a woman's autonomy and the right to make decisions about her own body, including pregnancy.
Abortion Stance	Generally, opposes abortion due to the belief that the foetus has a right to life.	Argues that access to safe and legal abortion is a fundamental right.
Arguments	- Moral and ethical reasons. - Biological markers of life. - Adoption as an alternative.	- Bodily autonomy. - Safety concerns related to illegal abortions. - Recognition of various personal and medical reasons. - Socio-economic factors.
Exceptions	Some allow for exceptions in cases of rape, incest, or threats to the mother's life.	Not specifically about exceptions but emphasizes the woman's right to choose in any circumstance.

Important Provisions Related to Women's Reproductive Choices
- **Article 21 - Right to Life and Personal Liberty:** This is one of the most crucial provisions that has been interpreted to include the right to make reproductive choices.
- **Article 14 - Right to Equality:** Women's right to health, including reproductive health, can be connected with the right to equality, ensuring that women have equal access to health services without discrimination.
- **Directive Principles of State Policy:** Though not justiciable, the Directive Principles provide guidelines for the state's governance. For example:

- **Article 42** requires the state to make provisions for securing just and humane conditions of work and for maternity relief.
- **Article 47** casts a duty on the state to raise the level of nutrition and the standard of living of its people, which can be linked to reproductive health.
- **Other Legal Provisions:** Several other legal frameworks indirectly touch upon reproductive rights:
- **The Pre-Conception and Pre-Natal Diagnostic Techniques (Prohibition of Sex Selection) Act, 1994** is aimed at preventing female foeticide and addresses the misuse of diagnostic techniques for sex determination.
- **The Protection of Women from Domestic Violence Act, 2005** recognizes that denying access to reproductive health services and family planning can be a form of domestic violence.

What measures can be taken?

1. **Clarity in Law**: There's a need for a clear articulation of the legal status of the foetus and its rights or interests.
2. **Engaging Broader Perspectives**: Beyond legal definitions, we need an interdisciplinary engagement on this issue, incorporating medical, sociological, and ethical perspectives.
3. **Affirming Women's Autonomy**: While the rights or interests of the foetus might be recognized, women's autonomy over their bodies and the decisions affecting them must not be compromised.
4. **Re-examine the Criminal Framework**: The framework under which abortion currently operates is criminal. Re-examining this approach will pave the way for better reproductive justice.
5. **Robust Medical Guidelines**: Clear and robust medical guidelines that consider both the woman's and foetus's health are essential. This will help medical practitioners make informed decisions without being influenced by stigma, bias, or outdated notions.
6. **Public Awareness and Education**: The government and civil society organizations should initiate public awareness campaigns on reproductive rights and safe abortion practices.
7. **Protecting the Right to Equality**: Ensuring women's reproductive rights is crucial in guaranteeing their right to equality.
8. **Legislative Action**: There's an urgent need for the legislature to revisit the Medical Termination of Pregnancy Act, considering the recent judgments, and amend it if necessary to ensure it adequately protects women's rights while balancing any potential rights of the foetus.
9. **Preparing for Future Cases**: The judiciary should be prepared for an influx of similar cases. To ensure consistency, it's essential to set clear precedents that future benches can follow.
10. **International Comparisons and Learnings**: India should actively study abortion laws and the evolving

rights discourse in other countries. This can provide valuable insights and best practices that India might adopt.

Conclusion

The recent Supreme Court verdict has reignited the debate on reproductive rights and fetal interests in India. As the legal framework evolves, it is crucial to balance the rights of women with the interests of the unborn. Achieving this balance will require clear legal definitions, ethical considerations, and the recognition of women's autonomy over their reproductive choices.

International Relations (GS Paper Prelims) & GS Paper II (Main)

A China-India Partnership, Its Vast Global Potential

Priority: High

Primary Source: The Hindu

Relevance: India and its neighborhood- relations. Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests. Effect of policies and politics of developed and developing countries on India's interests, Indian diaspora.

Prepp Prelims Booster: India-China ties, Panchsheel
Prepp Mains Booster: Issues Related To India-China Ties

Context

- This article discusses the need for a cooperative or shared approach to tackle the various challenges to peace, development, security, and governance emerging across the globe.
- India and China are both ancient Asian civilizations that share common thoughts on the future and destiny of mankind, which can be used to develop synergies between the two countries in order to achieve lasting peace and development.

Is there an opportunity for an India-China partnership?

- India and China share numerous synergies on the future of mankind due to the similarities in their civilizational heritage.
- For example, India developed the idea of **"Vasudhaiva Kutumbakam",** which means "the world is one family" in Sanskrit.
- It is based on the interconnected nature of the world and advocates that all people are part of a single global family.
- It was also used as the theme of the G20 summit held in New Delhi in September 2023.

- Similarly, China has proposed a vision of a **fair and just world for the common good.**
- Therefore, **India and China, which are the two largest developing countries and emerging market economies, must accept the responsibility and the opportunity to set an example for the rest of the world through their civilizational heritage.**
  o This responsibility is further enforced by the fact that the two countries, each with more than a billion people, **account for more than 35% of the global population.**
  o Moreover, the two countries are at similarly crucial stages of development and revitalization.

Panchsheel: Example of India-China cooperation
- The **Agreement on Trade and Intercourse** between the Tibet region of China and India,1954 first enunciated the **Five Principles of Peaceful Co-existence** or **Panchsheel**, which identify the basic norms governing international relations.
  o **Mutual respect for each other's territorial integrity and sovereignty,**
  o **Mutual non-aggression,**
  o **Mutual non-interference,**
  o **Equality and mutual benefit, and**
  o **Peaceful co-existence.**
- While India saw the Panchsheel principles as a chance to publicize its anti-colonial stance while China saw it as a means of Asian cooperation.
- The Panchsheel Agreement is widely accepted as a foundation for a just and equitable world order which is in line with the spirit of the United Nations Charter and the interests of developing countries.
- However, China has repeatedly exploited this situation to strike India and Panchsheel has not been renewed after its initial expiry.

What has China proposed?
- Recently, Chinese President Xi Jinping proposed to build a **global community of a shared future.**
- The recently published white paper titled **"A Global Community of Shared Future: China's Proposals and Actions"** outlined a framework of actions for the shared future over the past decade.
  o Develop greater synergy in order to ensure lasting peace
  o Create a conducive environment for common security
  o Build confidence in common development
  o Enable sustainability-driven mutual learning between civilizations
  o Adopt steps to protect the ecology.
- This vision of a shared global community has also been reflected in multilateral fora in the form of resolutions and declarations of the **Shanghai Cooperation Organisation (SCO), BRICS,** and the **United Nations General Assembly**.
- This approach has won support among the international community, particularly the developing countries.

What are the key points of the vision?
- **Economic globalization:** Develop an **open world economy reflecting the demands and interests of developing countries** through a joint approach.
  o It **rejects principles such as unilateralism, protectionism, decoupling, and the zero-sum game.**
- **Peaceful development:** Countries must work together in **pursuit of peace** and attempt to **safeguard and share peace** so that they can achieve their development goals.
  o **Peace, development, cooperation, and win-win** are the highlights of the present approach while old strategies like **colonialism and hegemonism will not enable them to contribute to the development of the world**.
- **Foster new international relations:** By building a global community of a shared future, both emerging and established countries can i**dentify common ground for development** despite their different civilizations and social systems.
  o This will help them avoid the **Thucydides trap i.e the tendency towards war when an emerging power threatens to displace an existing great power as a regional or international hegemon.**
  o Broader and deeper partnerships based on **equality, openness, and cooperation** c**an be forged by upholding the principles of mutual respect, equity, justice, and mutually beneficial cooperation.**
- **Practice true multilateralism:** It advocates against the building of cliques and bloc politics in the name of multilateralism.
  o It **condemns selective multilateralism and unilateral thinking** which are not fair and free.
  o It recommends the **international system with the UN at its core and the international order based on international law with the purposes and principles of the UN Charter governing all international relations.**
- **Promote common values:** Countries should promote and spread common values such as **peace, development, equity, justice, democracy, and freedom of humanity.**
  o No single model of democracy is universally applicable or superior.
  o It is necessary to therefore **promote common values of humanity while recognizing the differences and diversity of civilisations and respecting the right of all countries to independently choose their social systems and development paths.**

What are China's contributions?
- China has contributed to building a global community of a shared future through numerous initiatives over the past decade such as the:
  o **Belt and Road Initiative (BRI):** It is a strategy launched by China to connect Asia with Africa and Europe via land and sea networks to improve regional integration and stimulate economic growth.

- o **Global Development Initiative:** It was launched in 2021 to raise awareness about the threats to achieving the SDGs and re-prioritize and renew global commitments.
- o **Global Security Initiative:** It was launched in 2022 by China to identify areas of cooperation, build an Asian security model, and oppose the destruction of the international order.
- o **Global Civilization Initiative:** It was proposed in 2023 to build a global network for inter-civilization dialogue and cooperation among all countries.
- According to China, these initiatives have helped build a global community of a shared future that aims to provide comprehensive solutions to the challenges confronting humanity.

What are India's concerns with such a partnership?
- **Opposition to BRI:** India opposes the Belt and Road Initiative on the grounds of sovereignty and transparency.
- o The BRI project includes the **China-Pakistan Economic Corridor (CPEC),** which passes through the Pakistan-occupied Kashmir (PoK), a territory that India has claimed.
- o India argues that the project should **respect international norms, rule of law, and financial sustainability and not lead to debt traps.**
- o Instead, India has promoted other connectivity initiatives like the **Partnership for Global Infrastructure and Investment (PGII)**, a G7 initiative to fund infrastructure projects in developing countries.
- o India has raised concerns on the environmental and social impacts of the infrastructure development projects under the BRI.
- **Ineffectiveness of the GSI:** India and like-minded countries like the U.S.A. have claimed that the **GSI is not a sustainable, equitable, and transparent solution to the growing insecurity of the world.**
- o These countries including India believe in strengthening and preserving the established order instead of upheaving it.
- **Deteriorating Bilateral Relationship:** India's bilateral relationship with China has worsened due to the border tensions with Indian policymakers emphasizing the need for mutual respect and adherence to agreements in maintaining a positive and constructive relationship with China.
- **Contestation on Global Platforms:** India's rivalry with China has evolved into the multilateral stage with the two countries displaying a difference of opinion in multilateral organizations.
- **Objection to multilateral reforms:** China has opposed India's bid for a permanent **United Nations Security Council (UNSC)** seat.
- o This has prompted India to seek alternative platforms to advance its global interests and contribute to the international order.

- **Discontent over Chinese maps:** In August 2023, China released the **2023 edition of the China standard map including parts of Arunachal Pradesh and Aksai Chin as Chinese territory.**
- o It also reasserted Chinese territorial claims on **Taiwan and other areas of the South China Sea**
- o The new map has been **criticized by India, Indonesia, the Philippines, Malaysia, Vietnam, and Taiwan, as well as Chinese allies like Russia and Nepal.**

Conclusion
- China and India are natural partners in building a global community of a shared future housing a third of the global population.
- A joint effort between China and India will cement the will of countries of the Global South countries towards building an open, inclusive, clean, and beautiful future based on lasting peace, universal security, and common prosperity.

UPSC Mains Practice Questions

Q.1) China is using its economic relations and positive trade surplus as tools to develop potential military power status in Asia', In the light of this statement, discuss its impact on India as her neighbor. **(UPSC GS2 2017)**

Q.2) China and Pakistan have entered into an agreement for the development of an economic corridor. What threat does it pose for India's security? Critically examine. **(UPSC GS2 2014)**

Q.3) The China-Pakistan Economic Corridor (CPEC) is viewed as a cardinal subset of China's larger 'One Belt One Road' initiative. Give a brief description of CPEC and enumerate the reasons why India has distanced itself from the same. **(UPSC GS2 2018)**

MCQs

Question: 'Belt and Road Initiative' is sometimes mentioned in the
news in the context of the affairs of [2016-I]
a.   African Union
b.   Brazil
c.   European Union
d.   China
Answer: (d)

Question: Which one of the following is not a principle of "Panchsheel"? (UPSC 1997)
a.   Non-alignment
b.   Peaceful Co-existence
c.   Mutual respect for each other's territorial integrity and
sovereignty
d.   Mutual non-interference in each other's internal affairs
Answer: (a)

Bhutan, China Deal On Boundaries Which Can Have Implications On India

Priority: High

Primary Source: The Hindu

Relevance: India and its neighborhood- relations. Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests. Effect of policies and politics of developed and developing countries on India's interests, Indian diaspora.

Prepp Prelims Booster: Doklam, Siliguri Corridor

Prepp Mains Booster: Delimitation and Demarcation of the Bhutan-China Boundary, Impact on India of growing Bhutan-China relations

Context

- Recently, **China and Bhutan conducted the 25th Round of Boundary Talks between the two countries, which had been delayed since 2016.**
- The boundary agreement between the two countries could be a concern for India due to the proximity of the region to India's Siliguri corridor and the tensions in India-China relations.
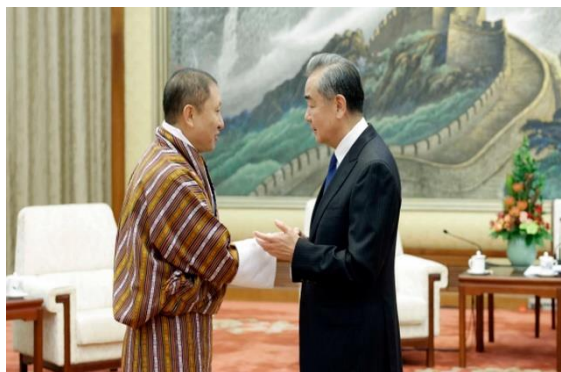
Key highlights of the Bhutan-China talks

- **Boundary talks:** The talks between China and Bhutan in Beijing were part of the **25th Round of boundary talks** between the two countries.
- The delegations were led by Dr. Dorji, the Minister for Foreign Affairs and External Trade of Bhutan, and Sun Weidong, the Vice Foreign Minister of China.
- Bhutan and China held 24 rounds of boundary talks between 1984 and 2016.
- **Cooperation Agreement:** The two countries signed a **"Cooperation Agreement"** that outlines the functioning of a **Joint Technical Team (JTT) on the Delimitation and Demarcation of the Bhutan-China Boundary.**
- According to reports, the two countries have agreed on a three-step road map on boundary delineation which will lead to the formal demarcation of the boundary between the two countries.
- **Diplomatic relations: Bhutan does not have diplomatic relations with any of the Permanent members of the UN Security Council (P5) (China is member of P5).**
- China has expressed hope that the two countries will establish relations at the earliest.

- China has claimed that it was willing to cooperate bilaterally at all levels in fields such as economy, trade, culture, tourism, etc.

How will the boundary talks affect India?

- **National security:** India closely followed such talks between China and Bhutan due to the implications for its national security.
- The **trijunction point near Doklam** is a subject of dispute between China and Bhutan.
- Chinese construction activity in the region has been opposed by India while China has alleged that Indian forces have invaded their territory to halt construction.
- **Connectivity:** The **Siliguri corridor** which connects the northeastern states of India and the rest of mainland India is in close proximity to the tri-junction point.
- India has claimed that a swap arrangement between Bhutan and China on areas to the north i.e. **Jamparlung and Pasamlung valleys** with **Doklam** to the west could affect the corridor.

Doklam

- Doklam is an area spread over less than a 100 sq km comprising a plateau and a valley at the trijunction between India, Bhutan and China.
- It is surrounded by the Chumbi Valley of Tibet, Bhutan's Ha Valley and Sikkim

Siliguri Corridor

- The **Siliguri Corridor,** or **Chicken's Neck**, is a narrow stretch of land located in West Bengal which is as narrow as 17 km and 60 km in length.
- The corridor that connects the northeast with the rest of India stretches from the Darjeeling, Jalpaiguri, and Terai areas of West Bengal to the states of Northeast India.
- It is bordered by **Nepal, Bangladesh, and the Kingdom of Bhutan**.

Significance:

- **Trade:** All land trade between the North East and the rest of the country happens through this corridor which is also a hub of a rail and road network.
- **Security:** It is also the hub of the railway network connecting the strategic military formations along the Line of Actual Control.

What could be the impacts on India of growing Bhutan-China relations?

- **Security Implications:** China's increasing presence near the India-Bhutan-China tri-junction, especially in the Doklam plateau, could threaten India's security interests. A border deal between Bhutan and China involving Doklam might compromise India's access to its northeastern states through the Siliguri Corridor.
- India could lose its leverage as Bhutan's buffer state and potentially face a two-front security challenge with China and Pakistan.
- **Economic Implications:** Bhutan is economically tied to India, with a strong partnership in hydropower cooperation. If Bhutan diversifies its economic ties with China, it may reduce its dependence on India and impact India's energy security.
- **Diplomatic Implications:** Bhutan's shift in diplomatic relations, especially if it establishes formal ties with China, could challenge India's influence in the region, given their historically close relationship.
- India's influence in Bhutan's external affairs could diminish.
- **Infrastructure and Connectivity:** Bhutan's participation in China's Belt and Road Initiative (BRI) could affect regional infrastructure development and connectivity, with India having concerns over the BRI's strategic and security implications.
- **Influence in Regional Organizations:** Bhutan aligning with China could impact India's influence in regional organizations like SAARC and BIMSTEC.

India-Bhutan relations

- **India's relationship with Bhutan dates back to 1910 when Bhutan became a British Indian protectorate.**
- Following Indian independence in 1947, **Bhutan became one of the first countries to recognize India as a sovereign nation.**
- The **Indo-Bhutan Treaty of Peace and Friendship** formalized the bilateral relations between the two countries in 1949.
- The treaty was updated in 2007 to enhance Bhutan's sovereignty and expand cooperation in cultural and economic domains.
- **Borders:** India and Bhutan have a shared border of 699 kilometers.

Bhutan's strategic importance to India:

- **Geographic:** Bhutan shares borders with four Indian states (**West Bengal, Sikkim, Assam, and Arunachal Pradesh)** and its rich hydropower potential can contribute to India's clean energy commitments.
- Bhutan is the source of the **Brahmaputra, the Sankosh, and the Manas** which are crucial for irrigation, hydroelectric power generation, and other purposes for India.
- **Security:** Bhutan serves as a vital buffer between India and China.
- India and Bhutan have established the **Border District Coordination Meeting (BDCM) Mechanism** for border management and security cooperation.

- India provides security assistance to Bhutan and has helped Bhutan build its border infrastructure, and develop the Bhutanese army.
- **Economic:** Bhutan is a significant market for Indian goods and investments.
- **Trade ties:** **India is Bhutan's largest trading partner** with trade encompassing a wide range of products.
- The **India-Bhutan Trade and Transit Agreement of 1972** established a free-trade regime between the two nations.
- India has been a key development partner for Bhutan and has contributed to Bhutan's Five Year Plans.
- India has contributed to the development of transport and communication networks in Bhutan.
- **Educational and Cultural Exchange:** Bhutanese students pursue their education in India, supported by Indian scholarships.
- The two countries have also promoted people-people connections among them.
- The Indian diaspora of around 60,000 Indians residing in Bhutan.
- **Bhutan is a Buddhist theocracy, and monarchy,** which also shares a historical and cultural link with India.
- **Multilateral partnerships:** India and Bhutan are founding members of the **South Asian Association for Regional Cooperation (SAARC)** and also participate in other regional multilateral bodies like the **BBIN, BIMSTEC,** etc.

Challenges

- **Involvement in internal affairs:** Bhutan has expressed concerns about India's involvement in its internal affairs especially with the increase in China's territorial claims and efforts for economic and diplomatic relations with Bhutan.
- **Anti-India sentiment:** The Bhutanese people feel that Indians are using security issues as an excuse to keep Bhutan under India's control.

UPSC Mains Practice Questions

Q.1) Do you think that BIMSTEC is a parallel organization like the SAARC? What are the similarities and dissimilarities between the two? How are Indian foreign policy objectives realized by forming this new organization? **(UPSC GS2 2022)**

Q.2) 'China is using its economic relations and positive trade surplus as tools to develop potential military power status in Asia', In light of this statement, discuss its impact on India as her neighbor. **(UPSC GS2 2017)**

Indian Ocean Rim Association Meet 2023

Priority: High

Primary Source: The Hindu

Relevance: India and its neighborhood- relations. Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests.

Prepp Prelims Booster: Indian Ocean Rim Association, Indian Ocean

**Prepp Mains Booster:** Indian Ocean Rim Association, India's Role and Associated Challenges

Context

- Recently, the 2023 Indian Ocean Rim Association Council of Ministers Meeting, held in Colombo on October 11, saw Sri Lanka assume the IORA chairmanship from Bangladesh for the next two years. India's External Affairs Minister, S. Jaishankar, called for regional cooperation in addressing development challenges while cautioning against hidden agendas in financially unfeasible projects and unsustainable debt, indirectly alluding to concerns about China's "debt trap" diplomacy.
- India assumed the role of Vice Chair of IORA for 2023-25 and for 2023-25 and will be the Chairman for 2025-27.

IORA Council of Ministers Meeting 2023

- The **Indian Ocean Rim Association (IORA) Council of Ministers** meeting was scheduled on October 11, 2023, in Colombo, Sri Lanka which aims to promote regional cooperation and sustainable development in the Indian Ocean region.
- Foreign ministers of 16 countries including India, Bangladesh, Mauritius, Iran, Malaysia, and South Africa, as well as ministerial representation from other members and dialogue partners, participated.
- The meeting focused on reviewing IORA's ongoing and future work, and various agreements were exchanged between India and Sri Lanka, including the Indian Housing Project and the dairy sector.

(India's Presence in the Indian Ocean)
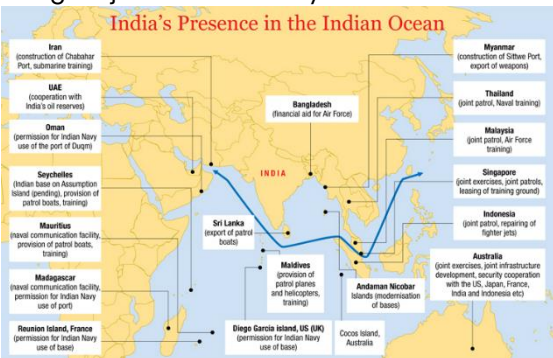
What is the Indian Ocean Rim Association (IORA)?

- The IORA is an **intergovernmental organization established in 1997, with its secretariat in Mauritius.**
- It was initially known as the Indian Ocean Rim Association for Regional Cooperation (IOR-ARC).

- It operates as a tripartite forum that brings together representatives from Government, Business, and Academia to foster cooperation and interaction.
- It was conceptualized by India and South Africa and is founded upon the values of open regionalism to boost economic cooperation through trade facilitation, investment, and regional social development.

(Priority Areas of IORA)

Membership:

- It comprises **23 Member States** bordering the Indian Ocean and **12 Dialogue Partners.**
- **Members:** Australia, Bangladesh, Comoros, French Republic, India, Indonesia, Iran, Kenya, Madagascar, Malaysia, Mauritius, Mozambique, Oman, Seychelles, Singapore, Somalia, South Africa, Sri Lanka, Tanzania, Thailand, the United Arab Emirates, the Maldives, and Yemen.
  - All sovereign States of the Indian Ocean Rim are eligible for membership and members must adhere to the principles and objectives of the IORA Charter.
- **Dialogue partners:** China, Germany, the United States of America, Egypt, Japan, Turkey, France, the United Kingdom, Russia, Italy, Saudi Arabia, and South Korea.
  - Dialogue Partners provide valuable assistance in fields such as technology transfer, environmental issues, the promotion of trade and investment, technical cooperation, and assistance to the Special Fund.

Objectives:

- Strengthen regional cooperation and promote sustainable development within the Indian Ocean region.
- Development through economic cooperation
- Help member countries achieve an enhanced flow of goods, services, investment, and technology by:
  - Promoting liberalization
  - Removing impediments
  - Lowering barriers

Priority Areas

- **Maritime Security:** Ensure the safety and security of maritime routes and combat threats such as piracy.
- **Trade and Investment Facilitation:** Promote economic cooperation, trade liberalization, and investment within the Indian Ocean region.
- **Fisheries Management:** Collaborate on sustainable fisheries practices to protect marine resources.
- **Disaster Risk Reduction:** Enhance resilience and preparedness for natural disasters in the region.

- **Academic and Scientific Cooperation:** Encourage research, education, and knowledge-sharing among Member States.
- **Tourism Promotion and Cultural Exchanges:** Promote tourism in member countries and foster stronger cultural ties in the region.
- **Blue Economy:** Promote smart, sustainable, and inclusive growth and employment opportunities within the Indian Ocean region's maritime economic activities.
- **Women empowerment:** The IORA is committed to gender equality and women's economic empowerment and released a **Gender Pledge** in 2022.

Structure:
- **Council of Foreign Ministers:** The IORA's apex body is the **Council of Foreign Ministers (COM)** which meets annually to discuss the developments of IORA.
  - The chairman of the COM serves for a two-year term with the next Chairman serving as the Vice-Chair.
- **Committee of Senior Officials:** The CSO meets twice a year to discuss actions to advance the IORA's agenda and recommendations by Working Groups and other forums to improve the lives of people within the region.
- **Troika:** The "**Troika**" consists of the **Chair, the Vice-Chair, and the previous Chair.**
  - It has been established by the Council of Ministers.
  - It meets in the Chair country or another agreed-upon country in the periods between regular meetings of the COM and the CSO.
  - It reports to the COM and the Member States on any important matters such as achievements, policies, appointments, and terms of office of the Secretary-General.

Importance
- **Increased Membership:** The membership of the IORA has expanded from seven (Magnificent 7) to 23 member states and 12 dialogue partners.
  - The participation of nations such as the U.S.A., Japan, Germany, etc which are outside the Indian Ocean Region has increased the influence and scope of the organization beyond economy and trade to non-conventional security concerns as well.
- **Economic:** 40% of global trade takes place through the Indian Ocean including 80% of India's energy exports.
  - This makes the region significant from an economic point of view for member nations and dialogue partners such as the U.S.A., and Japan.
  - The IOR's enormous seabed resources comprises abundant oil and natural gas reserves, minerals and marine life.
- **Population:** The Indian Ocean Region houses around 2.7 billion people and is rich in culture, languages, religions, traditions, arts, and cuisines.
- **Security:** One of the major issues faced by the IOR countries is **piracy,** particularly around the **Horn of Africa** and the **Gulf of Aden.**

- India's long coastline makes it vulnerable to potential threats emerging from the sea.
- The IORA has undertaken successful initiatives for international cooperation in anti-piracy
- Members have also signed an accord on cooperation against terrorism and sharing information among members.
- Other concerns in the region include territorial disputes in the region, Chinese aggression, and the rules-based order.

Initiatives
- **Indian Ocean Dialogue (IOD):** The **IOD is a stand-alone Track 1.5 debate** that was started at the 13th Council of Ministers conference in 2013.
  - It brings together academics and decision-makers from member states to engage in discussions on issues that affect the Indian Ocean Region and IORA member nations.
- **IORA Sustainable Development Programme (ISDP):** The ISDP was established in 2014 in order to share best practices and thus close the gap between developed and least developed countries.
  - It focuses on information sharing and peer-to-peer learning.
- **Fisheries Support Unit (FSU):** A Fisheries Support Unit was established at the National Centre for Marine Sciences and Fisheries in Muscat, Oman, financed by the Special Fund.
  - It aims to improve fisheries cooperation and research among member countries.
- **Regional Center for Science and Technology Transfer (RCSTT):** The IORA Regional Center for Science and Technology Transfer (IORA RCSTT) was established in October 2008 in Tehran.

What are the challenges associated with the IORA?
- **China's aggression:** The IORA Council meeting in 2023 will coincide with the potential visit of the **Chinese research vessel Shi Yan 6** to Sri Lanka.
  - This is a major security concern for India, which views this as part of Chinese incursion into its sovereign waters.
  - India and the U.S. have raised the matter with Sri Lanka.
- **Competition:** Sri Lanka could be affected by the **competing strategic interests of India and China** in the Indian Ocean Region.
  - It is difficult for the IORA Chair and members to balance the diverse interests and priorities of member countries
  - Potential conflicts and disputes among member countries are a challenge for the IORA.

> China's Maritime Silk Road expansion, part of the **Belt and Road Initiative (BRI)**, has raised strategic concerns in the Indian Ocean region, prompting India to formulate its own **"SAGAR"** vision, aimed at counterbalancing China's influence and promoting stability through security, economic growth, and regional engagement.

- **Effectiveness:** The IORA has faced difficulties in ensuring the effective implementation of regional initiatives and projects.
  o The IORA's limited resources and capacities have adversely affected the IORA's ability to address regional challenges.
- **Geopolitical challenges:** The IORA is also facing the challenge of **opposing geopolitical influences** contrary to the interests of individual members.
  o These could include U.S. attempts to build influence in the region as well as Chinese initiatives like the **Maritime Silk Route**.
- **Overlapping organizations:** The funding and activities of the IORA are compromised by the presence of other organizations in the Indian Ocean Region such as the **Indian Ocean Commission** and the **Indian Ocean Naval Symposium.**

India's role in IORA

- India has advocated a policy of **"coordination, cooperation, and partnership"** in the Indian Ocean Region with its partner countries in the IORA to ensure development that is equitable and sustainable while addressing major concerns like security.
- India has attempted to establish itself as the f**irst responder and provider of humanitarian assistance and disaster relief** in the region.
  o India's partnership with the IORA will help it advance towards this goal.
- The **Information Fusion Center** has been established in Gurugram to provide member nations with real-time crisis information.
  o IORA members are active participants which will help India become the primary source of information in the IOR.
- India has developed the **Security and Growth for All in the Region (SAGAR)** policy which aims to make the IOR more inclusive and safer.

Conclusion

- The Indian Ocean Region is a critical element in global trade, which makes China's growing aggression and other security concerns a major challenge for countries like India.
- The IORA plays a crucial role in fostering cooperation and sustainable development in the region while maintaining regional security and ensuring adherence to international maritime laws.

UPSC Mains Practice Questions
Q.1) The newly tri-nation partnership AUKUS is aimed at countering China's ambitions in the Indo-Pacific region. Is it going to supersede the existing partnerships in the region? Discuss the strength and impact of AUKUS in the present scenario. **(UPSC GS2 2021)**
Q.2) What do you understand by 'The String of Pearls'? How does it impact India? Briefly outline the steps taken by India to counter this. **(UPSC GS2 2013)**

Q.3) What are the maritime security challenges in India ? Discuss the organisational, technical and procedural initiatives taken to improve the maritime security. **(UPSC GS2 2022)**

MCQ
Question: With reference to 'Indian Ocean Rim Association for Regional Cooperation (IOR-ARC)', consider the following statements: **(UPSC 2015)**
1. It was established very recently in response to incidents of piracy and accidents of oil spills.
2. It is an alliance meant for maritime security only.

Which of the statements given above is/ are correct?
a. 1 only
b. 2 only
c. Both 1 and 2
d. Neither 1 nor 2

Answer: (d)

Question: Consider the following in respect of the Indian Ocean Naval Symposium (IONS):
1. The inaugural IONS was held in India in 2015 under the chairmanship of the Indian Navy.
2. IONS is a voluntary initiative that seeks to increase maritime cooperation among navies of the littoral states of the Indian Ocean Region.

Which of the above statements is/are correct? **(UPSC CSE 2017)**
a. 1 only
b. 2 only
c. Both 1 and 2
d. Neither 1 nor 2
Answer: (b)

Question: South-East Asia has captivated the attention of global community over space and time as a geostrategically significant region. Which among the following is the most
convincing explanation for this global perspective?
(UPSC CSE 2011)
a. It was the hot theatre during the Second World War
b. Its location between the Asian powers of China and India
c. It was the arena of superpower confrontation during the Cold War Period
d. Its location between the Pacific and Indian oceans and its pre-eminent maritime character
Answer: (d)

Recent Rift Between Canada's - India Relations & Vienna Convention

Priority: High

Primary Source: The Hindu
Relevance: Effect of policies and politics of developed and developing countries on India's interests, Indian diaspora.
Prepp Prelims Booster: Vienna Convention
Prepp Mains Booster: Violation of the Vienna Convention

Context

- Recently, **Canada withdrew 41 diplomats from India and halted walk-in services at its consulates in the country.**
- Indian External Affairs Minister S. Jaishankar described Canada's inability to provide safety and security to Indian diplomats as a challenge to the core aspects of the Vienna Convention on Diplomatic Relations.

S Jaishankar

Why has Canada withdrawn its diplomats from India?

- **Canada withdrew 41 of its diplomats from India** over concerns that India would withdraw diplomatic immunity for the majority of its diplomats.
- Indo-Canadian relations had plunged following the Canadian Prime Minister's allegations that Indian agents were involved in the **death of Khalistani leader Hardeep Singh Nijjar in Canada.**
  - The two countries had previously expelled diplomats to show their displeasure.
- **Parity in diplomatic presence:** In the aftermath, **India demanded parity in terms of diplomatic representation with Canada.**
  - Officials of the Indian Ministry of External Affairs had claimed that there were many more Canadian diplomats in India than there were Indian diplomats in Canada.
  - India had told Canada to downsize its diplomatic staff in India to a similar number as those of Canadian diplomats in India.
- Canada has called for India to cooperate in the investigation but New Delhi has rejected the allegations and taken countermeasures, such as shutting down visa services for Canadians.
- **Violation of the Vienna Convention:** India claimed that Indian diplomats in Canada are not safe, which is a violation of the Vienna Convention's commitment to ensure the safety and security of diplomats.
  - On the other hand, **Canada accused India of violating the Vienna Convention by claiming that a unilateral revocation of diplomatic privileges and immunities is contrary to international law.**
  - India has however rejected the allegation.

What other concerns has India expressed?

- **Interference in domestic affairs:** India accused Canadian diplomats of continuous interference in domestic Indian affairs.
  - One of the most important facets of international relations is that countries or their diplomats do not interfere in the domestic affairs of the other country, which is a violation of the sovereignty and integrity of the host country.
  - India's **Panchsheel principles** mention equal non-interference in the other's internal matters as a core element of Sino-Indian relations.
- **Problematic segment of Canadian politics**: India claimed that it is closely tracking the situation in Canada and claimed that **Khalistani separatist groups in Canada had made murder threats against prominent Indian diplomats.**
  - India expressed concern over the influence of Khalistani elements on Canadian politics.

International response to the incident

- The USA and the UK, which are both members of the **Five Eyes Alliance,** have supported Canada.
- **U.K:** The **U.K.'s Foreign, Commonwealth and Development Office (FCDO)** claimed that the move would impact the effective functioning of the Vienna Convention, 1961.
  - It claimed that it did not agree with the decisions taken by the Indian government that led to the departure of Canadian diplomats and reiterated the need for countries to respect the **Convention on Diplomatic Relations.**
  - It encouraged India to engage with Canada in its independent investigation and claimed that the unilateral removal of privileges and immunities was not consistent with the principles of the Vienna Convention.
- **U.S.A:** The **U.S. State Department** emphasized the need for diplomats to resolve differences between the two countries.
  - It expressed concern over the departure of Canadian diplomats from India and urged the Indian government to not insist on a reduction in Canada's diplomatic presence.

What is the Vienna Convention?

- The **Vienna Convention on Diplomatic Relations (1961)** is a United Nations treaty that established a common framework for how countries must treat each other's diplomatic representatives.
- It aims to ensure the **development of friendly relations between and maintenance of communication channels** between countries.
- **Members:** Around 193 countries have ratified the convention, which indicates their agreement to the Convention being legally binding on them.
  - Ratification means that a country should seek approval for the treaty on the domestic level and enact a law in their country to give effect to it.

- **India and the convention:** India acceded to the Vienna Convention on Diplomatic Relations in 1965.
  o India ratified the Vienna Convention through the **Diplomatic Relations (Vienna Convention) Act of 1972.**

Key Features of the Convention

Diplomatic Immunity	**Articles 29 to 36** of the Convention cover diplomatic immunity. - This states that diplomats and their families should be granted immunity from the jurisdiction of the host country's legal system for their official actions. - It covers both criminal and civil matters. - This ensures that diplomats cannot be prosecuted in the courts of the host country. - The **Convention on Consular Relations, 1963 is the other treaty on diplomatic immunity.**
Inviolability of Diplomatic premises	- It is covered by **Articles 22 to 27** of the Convention - Diplomatic premises i.e. embassies and consulates cannot be entered or searched by the authorities of the host country without the permission of the other country.
Protection of Diplomatic Missions	- The security and protection of diplomatic missions and their staff is the responsibility of the host country. - The host must safeguard the physical premises of these diplomatic missions and prevent intrusion and damage.
Non-interference	- It is covered by **Article 41** of the Convention. - It aims to ensure peaceful coexistence and relations between states. - As per the principle, diplomats must not interfere in the domestic political affairs of the host country.
Termination of Diplomatic Relations	- It is covered by **Articles 45 to 50 of the Convention.** - It establishes a framework for the procedure to terminate diplomatic relations between states.

	It includes both the early withdrawal of diplomats and the closure of missions.
Recalling Diplomats	- According to **Article 9** of the convention, the receiving State may, at any time and without having to explain its decision, notify the sending State that the head of the mission or any member of the diplomatic staff of the mission is persona non grata or unwelcome. - If the sending State refuses or fails to do so within a reasonable period, the receiving State may refuse to recognize the person concerned as a member of the mission. - According to **Article 11**, if there is no specific agreement between the countries regarding the size of the missions, the receiving State can demand that it is within limits considered normal.

Conclusion

- India has rejected the Canadian allegations that it has violated the provisions of the Vienna Convention and cited provisions of the Convention such as Articles 9 and 11 to justify its position. This has highlighted how the need to protect its national interests, sovereignty, and integrity is the primary aspect of a nation's foreign policy.

MCQs
Question: Which one of the following is not a principle of "Panchsheel"? **(UPSC CSE 1997)**
a.   Non-alignment
b.   Peaceful Co-existence
c.   Mutual respect for each other's territorial integrity and sovereignty
d.   Mutual non-interference in each other's internal affairs
Answer: (a)

Sri Lanka, Bangladesh Mull Over Joining RCEP Bloc

Priority: Medium
Primary Source: The Hindu
Relevance: India and its neighborhood- relations. Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests. Effect of policies and politics of developed and developing countries on India's interests, Indian diaspora.
Prepp Prelims Booster: Regional Comprehensive Economic Agreement

Prepp Mains Booster: Sri Lanka and Bangladesh RCEP membership

Context

- Recently, Sri Lanka & Bangladesh has sought support for its membership in the Regional Comprehensive Economic Agreement which India left without joining in 2019.
- India was a founder member of the RCEP grouping but withdrew in 2019 due to various concerns related to trade deficit and domestic industries.

Regional Comprehensive Economic Partnership (RCEP) participants

Prospective new members of the RCEP

- **Sri Lanka:** Sri Lanka has already applied for RCEP membership.
- It has sought support from China, Malaysia, Indonesia, Japan and Thailand.
- **Bangladesh:** According to Bangladesh's Commerce Ministry's proposal, joining the RCEP may increase Bangladesh's exports by $5 billion. As Bangladesh is already negotiating free trade agreements with six of the 15 RCEP countries, joining the grouping would simplify the process.

Why are Sri Lanka and Bangladesh interested in RCEP membership?

- **Potential for growth:** According to Sri Lanka, the RCEP is a vast trade bloc with vast potential for economic growth.
- Bangladesh is expected to move out of the list of Least Developed Countries by 2026, which would reduce its access to markets resulting in export earnings dropping by 14% and average tariffs increasing by 9%.
- Joining RCEP is projected to increase Bangladesh's exports by $5 billion.
- **Sri Lanka's financial crisis:** Sri Lanka is presently negotiating with the IMF and other creditors for loans in order to manage the country's economic crisis.
- It views the RCEP and its members as a viable source of credit to tackle these challenges.
- **Importance of regional trade:** Sri Lanka and Bangladesh have recognized the importance of regional trade partners.
- Membership in the RCEP will insulate them from the challenges in subcontinental trade and increase their access to the ASEAN group of countries including China, Japan, South Korea, Australia, and New Zealand.

- **Move away from protectionism:** Sri Lanka and Bangladesh are attempting to move away from protectionist policies, which will make them more competitive in the international market.
- Bangladesh is negotiating FTAs with six of the fifteen RCEP countries, which will make the accession process easier.

What is the RCEP?

- The Regional Comprehensive Economic Agreement is a free trade agreement between 15 Asia-Pacific countries.
- **Members:** Australia, Brunei, Cambodia, China, Indonesia, Japan, Laos, Malaysia, Myanmar, New Zealand, Philippines, Singapore, South Korea, Thailand, Vietnam
- **Signing and enactment:**
- The RCEP was signed on November 15, 2020 after negotiations began in 2012.
- The RCEP came into force in January 2022.
- **Secretariat:** The provisional Secretariat of the RCEP is located in Jakarta as a special unit within the ASEAN Secretariat.
- **Objectives:**
- Achieve a modern, comprehensive, high-quality, and mutually beneficial economic partnership among ASEAN Member States and their FTA partners.
- This includes lowered trade barriers and enhanced economic cooperation and growth.
- **Features:**
- Trade facilitation: It will reduce tariffs, open trade in services, and improve rules of origin, customs procedures, and trade remedies.
- Access to markets: It will help improve access to markets for goods and services among member countries.
- **Process for Membership:** According to the RCEP Agreement, the RCEP secretariat is mandated to accept membership applications from July 2023.
- Officials have claimed that accession rules will be finalized by 2024 opening the way for negotiation for accession with potential members.

Significance of the RCEP

- **Economic:** The RCEP presently accounts for 30% of the global GDP.
- The RCEP is expected to eliminate around 90% of tariffs imposed on goods within the bloc within the first 15 years.
- **Strategic:** The RCEP is the first agreement of its kind among the big Asian economies.
- It is expected to promote integration of economies within the region and strengthen relations between member nations.
- **Wide scope:** The RCEP will also cover new areas such as e-commerce, competition policy, and Intellectual Property Rights (IPR).

Why did India withdraw from the RCEP?

- **Transparency:** India claimed that China's use of subsidies and state capitalism gave Chinese industry an unfair advantage and was counter to the ideals of free trade.
- **Rules of Origin:** India emphasized the need for robust rules of origin in order to prevent an influx of Chinese products exported indirectly through member countries with reduced tariffs.
  o This could inundate domestic markets and hurt domestic producers.
- **Mobility in Services:** India argued for provisions in support of free trade in services in order to benefit its strong services sector.
  o India claimed that this was vital to ensure that India's economic needs were satisfied.
- **Non-member status:** India wanted to protect its rights to engage in trade agreements with other countries without being forced to apply the same terms to RCEP members.
  o Consider, an India-UAE investment agreement with a higher rate of return on investment. In such a case, India required that RCEP countries should not be obligated to impose the same rate of interest.
- **Changing economic trends:** India also expressed concerns over the increasing trends of protectionism across the globe which has led to countries favoring their domestic industries over international trade.
- **Domestic objections:** The domestic agriculture sector and smaller businesses in the country have opposed the RCEP due to fears it could lead to an influx of products from other countries, particularly dairy, meat, and agricultural products.

What does this mean for India?
- Although India has been invited to return to the RCEP on several occasions, the government has not yet indicated a change in its position.
- **Chinese influence on subcontinental markets:** According to Indian officials, the participation of its neighboring states in the RCEP would be concern for the country.
  o This would open India's neighboring markets to the Chinese-dominated RCEP.
- **Global competitiveness:** It was possible that these markets may become more globally competitive than India's due to improved economic integration and trade facilitation.

Conclusion
- Sri Lanka and Bangladesh's interest in joining the RCEP is a reflection of its economic and strategic significance in the Asia-Pacific region and the opportunities for economic growth, trade facilitation, and enhanced global competitiveness it provides.
- However, India's valid concerns regarding RCEP membership continue to shape its stance.

What is ASEAN?

Answer: The Association of Southeast Asian Nations or ASEAN is a regional organization that was established to promote political and social stability among the post-colonial states of the Asia Pacific region. Its Secretariat is located in Jakarta.
ASEAN is significant for India as it is the country's fourth-largest **trading partner.**

What is protectionism?

Answer: The term "Protectionism" refers to government policies that restrict international trade in order to assist domestic industries. Some of the tools of a protectionist policy are tariffs, import quotas, product standards, and subsidies.

UPSC Mains Practice Questions
Q.1) India is an age-old friend of Sri Lanka.' Discuss India's role in the recent crisis in Sri Lanka in light of the preceding statement. **(UPSC GS2 2022)**
Q.2) In respect of India — Sri Lanka relations, discuss how domestic factors influence foreign policy **(UPSC GS2 2013)**
Q.3) The Indian Diaspora has an important role to play in South-East Asian countries' economy and society. Appraise the role of the Indian Diaspora in South- East Asia in this context **(UPSC GS2 2017)**
Q.4) Evaluate the economic and strategic dimensions of India's Look East Policy in the context of the post-Cold War international scenario. **(UPSC GS2 2016)**

MCQs
Question: The term 'Regional Comprehensive Economic Partnership' often appears in the news in the context of the affairs of a group of countries known as **(UPSC CSE 2016)**
a.   G20
b.   ASEAN
c.   SCO
d.   SAARC
Answer: (b)

Question: Consider the following countries: **(UPSC 2018)**
1.   Australia
2.   Canada
3.   China
4.   India
5.   Japan
6.   USA
Which of the above are among the 'free-trade partners' of ASEAN?
a.   1, 2, 4 and 5
b.   3, 4, 5 and 6
c.   1, 3, 4, and 5
d.   2, 3, 4 and 6
Answer: (c)

The Legality Of Using White Phosphorous & Protocol III of the Convention on Certain Conventional Weapons (CCW)

Priority: Medium

Primary Source: The Hindu

Relevance: External State & Non-State Actors; Challenges To Internal Security, Effect of policies and politics of developed and developing countries on India's interests, Indian diaspora.

Prepp Prelims Booster: Convention on Certain Conventional Weapons (CCW), White Phsophorous

Prepp Mains Booster: Ethical and Humanitarian Concerns Related To the Use of White Phosphorous in Gaza

Context:
- Recently, **Human Rights Watch accused Israel of using white phosphorus munitions in Gaza,** raising **concerns about the potential risks posed to civilians.**

Key Highlights from the Earlier Allegations
- **In the 2008-2009 Gaza War, there were allegations that the Israel Defense Forces (IDF) struck the Gaza Strip** with sub-munitions containing white phosphorus.
- The Israeli government, which had earlier denied this, later acknowledged that it did use white phosphorus in 2009, but only in uninhabitable areas, for the purpose of signaling and marking.
- **The Israel military, in the case of Yoav Hass and others v. Chief of Staff (2013), agreed to abandon white phosphorus use** except in specified situations communicated to the court.

What is White Phosphorus?
- White phosphorus is **a waxy, yellowish-to-clear chemical with a pungent, garlic-like odour.** It is a **highly combustible chemical that burns quickly and brightly when exposed to air.**
- Its chemical reaction with atmospheric oxygen can **create intense heat (about 815°C), light, and smoke.**
- **White phosphorus is manufactured industrially by heating phosphate rock in the presence of carbon and silica in a furnace. This produces phosphorus as a vapour, which is then collected under water.**
- It spontaneously combusts upon contact with oxygen and is frequently **utilized by armed forces for battlefield illumination, smoke screens, and as an incendiary agent.** Once ignited, **white phosphorus is highly resistant to extinguishing.**

Impact of White Phosphorus
- **Severe Burns:** It can cause extremely painful burns upon contact with the skin. These burns can be deep and difficult to heal, often reaching down to the bone. Infection is a significant concern with these burns, and particles of white phosphorus embedded in the body can reignite when exposed to air, making treatment and recovery even more challenging.
- **Inhalation Hazards:** Inhaling white phosphorus particles or smoke can lead to respiratory damage and harm to internal organs. This can cause long-term health issues and complications for those exposed.
- **Long-Term Suffering:** Survivors of white phosphorus exposure often experience a lifetime of suffering. The injuries can result in impaired mobility and leave behind painful and disfiguring scars that can significantly impact a person's quality of life.
- **Environmental Damage:** It can also devastate the environment, which ignites fires that are difficult to control, especially in windy conditions. These fires can damage infrastructure and property, destroy crops, and kill livestock. The environmental consequences can be long-lasting and extend beyond the immediate human toll.

When were white phosphorus munitions first used?
- White phosphorus munitions were **first used by Irish nationalists in the late 19th century, in a formulation known as "Fenian fire."** The term "Fenian" was a collective reference to Irish nationalists.
- During World War I, British and Commonwealth forces extensively utilized white phosphorus in various forms, including grenades, bombs, shells, and rockets.
- Since then, **white phosphorus munitions have been employed in conflicts worldwide, r**anging from their use during the Normandy invasion in World War II to their presence in the US invasion of Iraq in 2004 and the protracted Nagorno-Karabakh conflict.
- Russia also faced allegations of employing white phosphorus bombs during the invasion of Ukraine in the previous year.

What are the military uses of white phosphorus?
- **Creating Smoke:** White phosphorus is used in military applications primarily for creating smokescreens, which serve to obscure troop movements on the ground.
  - This smokescreen is a visual obscurant, and it can also interfere with infrared optics and weapons tracking systems, providing protection for forces against guided missiles.
- Munitions containing white phosphorus can be employed in two main ways. They can be ground-burst to create a more concentrated smoke for specific purposes, or they can be air-burst to cover a larger area.
- **Incendiary Weapon:** White phosphorus can be used as an incendiary weapon. For example, during the second battle of Fallujah in Iraq in 2004, US forces used white phosphorus munitions to compel concealed combatants to abandon their positions.

What is the legal status of white phosphorus munitions?
Protocol III of the Convention on Certain Conventional Weapons (CCW):
- This protocol regulates the use of incendiary weapons, which includes white phosphorus munitions.
- **Article 1** of this protocol defines an "**incendiary weapon**" as a munition primarily designed to set fire to

objects or cause burn injuries to persons through the action of flame, heat, or a combination thereof.
- However, it includes an exemption for munitions that may cause unintended incendiary effects, such as illuminants, tracers, smoke, or signaling systems.
- White phosphorus munitions are often considered to **fall within this exemption** because their primary purpose is not to cause burn injuries but to produce illuminating and smokescreen effects.

Chemical Weapons Convention (CWC):
- The CWC is a treaty that comprehensively bans the use of chemical weapons. White phosphorus is a chemical agent, but it is not covered by the CWC when used as an incendiary weapon rather than for chemical warfare.
- This means that its use for the purpose of producing smoke, illumination, or signaling is not considered a violation of the CWC.

International Humanitarian Law (IHL):
- White phosphorus use is subject to the principles of IHL, including distinction, proportionality, and the prohibition of indiscriminate attacks.These principles aim to minimize harm to both civilians and combatants in armed conflicts.
- It is essential that the use of white phosphorus complies with these principles to avoid causing excessive harm to civilians compared to the military advantage sought.

Customary International Law:
- The use of white phosphorus munitions in populated areas has raised significant ethical and legal concerns.
- Customary international law, which reflects widely accepted state practice and opinio juris (belief in the legal obligation), may further contribute to the legal status of white phosphorus use in armed conflict.

Way Ahead
- It is imperative to enhance Protocol III of the CCW to establish more precise regulations concerning the utilization of white phosphorus and analogous multi-purpose munitions.
- Such an enhancement would result in a legally binding agreement among states, aiming to prevent the exploitation of ambiguities in existing laws and to streamline enforcement efforts.
- The imperative of adhering to international law, treaties, and protocols becomes evident when considering the legal ramifications of deploying white phosphorus in armed conflicts. It underscores the significance of these international frameworks in mitigating harm to both civilian populations and the environment.
- Disregarding these legal principles could lead to worldwide censure, investigations, and potential prosecution for war crimes, underscoring the pressing need for unambiguous and stringent regulatory measures.

MCQ

Question: With reference to 'Organization for the Prohibition of Chemical Weapons (OPCW)', consider the following statements: **(UPSC 2016)**
1. It is an organization of the European Union in working relation with NATO and WHO.
2. It monitors the chemical industry to prevent new weapons from emerging.
3. It provides assistance and protection to States (Parties) against chemical weapons threats.
Which of the statements given above is/are correct?
a. 1 only
b. 2 and 3 only
c. 1 and 3 only
d. 1, 2 and 3
Answer: (b)

Third Belt And Road Forum For International Cooperation
Priority: High
Primary Source: The Hindu
Relevance: Groupings & Agreements Involving India and/or Affecting India's, Interests; Infrastructure
Prepp Prelims Booster: BRICS
Prepp Mains Booster: BRICS and India's Role and Challenges and Opportunities associated with the forum

Context
- Recently, the **third Belt and Road Forum for International Cooperation was in Beijing, China, which marked the 10th anniversary of the Belt and Road Initiative (BRI).**

Brief Background of BRI
- The **Belt and Road Initiative (BRI) is a global infrastructure and investment project** announced by Chinese leader Xi Jinping in 2013.
- The **Belt and Road Forum for International Cooperation was previously held in 2017 and 2019.**

What is the Belt and Road Initiative (BRI)?
- The **Belt and Road Initiative (BRI) is a comprehensive development strategy introduced in 2013 with the goal of bolstering worldwide connectivity and collaboration.**
- This initiative seeks to establish extensive networks of **land and sea routes connecting Southeast Asia, Central Asia, the Gulf region, Africa, and Europe.**
- **Originally named "One Belt, One Road," it was later rebranded as the Belt and Road Initiative** to emphasize its open and inclusive nature, steering away from any perception of being dominated solely by China.
- **The BRI consists of two key routes:** the Silk Road Economic Belt and the Maritime Silk Road.
- **Silk Road Economic Belt:** This segment of the BRI is dedicated to improving connectivity, infrastructure, and trade links across Eurasia through a network of overland transportation routes.
- **Maritime Silk Road:** This component emphasizes maritime connections and cooperation in the form of

ports, shipping routes, and maritime infrastructure projects. It begins via the South China Sea going towards Indo-China, South-East Asia and then around the Indian Ocean thus reaching Africa and Europe.

What are the objectives of BRI?

- The central objective of the BRI is to **strengthen global connectivity through the improvement of infrastructure, facilitation of trade, and fostering economic collaboration.**
- This initiative involves an extensive array of endeavors, spanning railways, ports, highways, and energy infrastructure, among others.
- The BRI is also linked to China's efforts to **create new transport and trade routes to reduce dependency on the Strait of Malacca.**

Challenges and Issues associated with BRI

- **Ecological Damage:** BRI projects have been criticized for causing environmental harm, such as deforestation, habitat destruction, and pollution. Ensuring that BRI projects are environmentally sustainable and consider the well-being of local communities is a challenge.
- **Displacement of People:** Some BRI projects have led to the displacement of local populations, raising concerns about their rights and well-being.
- **Disputes over Payouts:** Disagreements and disputes have arisen over payments and compensation related to BRI projects, leading to tensions and conflicts.The **China-Pakistan Economic Corridor (CPEC) has experienced challenges, with reports suggesting that China benefits disproportionately from this initiative.**
  - **For instance:** A legislative report revealed that **China claimed the majority of revenue (91%) from the Gwadar port, while Pakistan received a smaller share,** which has raised concerns about equity in BRI projects.
- **Labor Unrest:** Instances of labor disputes, including disagreements over wages and working conditions, have been reported in connection with BRI ventures.
  - **In Indonesia,** anxiety has emerged regarding the influx of Chinese laborers taking jobs meant for locals.
- **Infrastructure and Debt Burden:** Laos is facing challenges amidst its ambitious infrastructure projects, such as fast trains and dams on the Mekong River. These projects have left some residents without proper compensation and have caused droughts, negatively affecting local communities.
  - **Laos is also burdened by a substantial debt to China, accounting for approximately 65% of its GDP,** with an estimated owed amount of $12.2 billion.

Global Alternatives to counter BRI

- **United States-Japan Infrastructure Investment:** During the Trump administration, US and Japan initiated discussions on creating alternatives to the BRI. They have been exploring opportunities for infrastructure investment in the Indo-Pacific region.
- **Build Back Better World (B3W):** The Biden administration introduced the Build Back Better World

initiative, which aims to mobilize private capital for infrastructure projects in developing countries. While initially proposed as B3W, it appears to have been reorganized as the Partnership for Global Infrastructure and Investment, focusing on climate change, energy security, healthcare, digital technology, and gender equity.

- **India-Middle East-Europe Corridor (IMEC):** The G-20 Delhi summit introduced the concept of the India-Middle East-Europe Corridor, which seeks to connect India, West Asia, and Europe through railways, shipping lines, and other forms of infrastructure. This initiative also envisions trade connectivity, electricity, digital infrastructure, and a clean hydrogen export pipeline.
- **Multilateral Development Banks:** Existing international financial institutions, such as the World Bank and the Asian Development Bank, are expanding their efforts to support infrastructure development in the regions covered by the BRI.

What is India's Stance on BRI?

- **Sovereignty and Transparency Concerns:** India firmly opposes the BRI due to concerns related to sovereignty and transparency.
- **Boycott of BRI Summits:** India notably boycotted the BRI summits in 2017 and 2019 hosted by China and refrained from endorsing the BRI joint statements within the Shanghai Cooperation Organisation (SCO).
- **CPEC and Territorial Dispute:** A major point of contention is the inclusion of the China-Pakistan Economic Corridor (CPEC) within the BRI, which passes through Pakistan-occupied Kashmir (PoK) – an area India claims as its own.
- **Call for International Norms:** India advocates that BRI projects must adhere to international norms, the rule of law, and ensure financial sustainability. It opposes the creation of debt traps and environmental or social risks for host countries.
- **Promotion of Alternative Initiatives:** India has instead been promoting alternative connectivity initiatives, such as the Partnership for Global Infrastructure and Investment (PGII), a G7 initiative aimed at funding infrastructure projects in developing nations.

UPSC Previous Year Mains Questions:

1. The China-Pakistan Economic Corridor (CPEC) is viewed as a cardinal subset of China's larger 'One Belt One Road' initiative. Give a brief description of CPEC and enumerate the reasons why India has distanced itself from the same. **(UPSC 2018)**

2. "China is using its economic relations and positive trade surplus as tools to develop potential military power status in Asia". In the light of this statement, discuss its impact on India as her neighbour. **(UPSC 2017)**

PYQ

Question: Belt and Road Initiative' is sometimes mentioned in the news in the context of the affairs of **(UPSC 2016)**
a. African Union
b. Brazil
c. European Union
d. China
Answer: (d)

UN Approved Kenya-led Security Mission to Haiti

Priority: Medium

Primary Source: The Hindu

Relevance: Important International institutions, agencies and fora- their structure, mandate.

Prepp Prelims Booster: United Nations Security Council, Haiti

Prepp Mains Booster: Kenya-led Security Mission to Haiti

Context

- The **United Nations Security Council** has authorized international involvement in the shape of a foreign security operation **led by Kenya** to restore security, preserve essential infrastructure, and keep the country under control of spiralling violence.
- Over the past year, armed groups have taken control of vast portions of Haiti, including the **capital Port-au-Prince,** resulting in an increase in bloodshed.
- While the **United States** has stated that it will not send troops, it **has offered $100 million in support services** like intelligence, communications, airlift operations, and medical help.

Where is Haiti?

- Haiti occupies the western one-third of Hispaniola, which it shares with the Dominican Republic and is **located between Cuba and Puerto Rico**.
- The **Atlantic Ocean** borders the northern beaches of Haiti, while the **Caribbean Sea** borders the west and south.

Current Situation in Haiti

- Surge in violence over the past year due to armed groups taking over large areas, including Port-au-Prince.
- Almost 2,800 people were killed, including 80 minors, between October 2022 and June 2023.
- Sexual assault and crimes against women have been on the rise, according to human rights organizations.

- Furthermore, mass looting and house burning have displaced hundreds of people, with an estimated 200,000 fleeing their homes.
- According to estimates, about half of the population requires humanitarian help.

Why Haiti Sought International Intervention?

- In October 2022, **Haitian Prime Minister Ariel Henry** asked international assistance to aid the national police.
- This came when a pair of gangs known as **G9 and Family** took control of the key gasoline port Varreux in the city, plunging the country into chaos.
- They were protesting the Prime Minister's decision to reduce fuel subsidies.
- To make matters worse, there was a bottled water shortage in the midst of a fresh cholera outbreak.
- As the crisis worsened and the police force became overburdened, Haitian leaders looked to the international community for assistance.
- They were looking for a specialized armed squad to combat gangs and their backers.

International Response

- There was initial hesitancy from the U.S. and the UN to intervene.
- Kenya proposed to lead the multinational force, breaking the stalemate.
- The resolution was then forwarded to UNSC.

United Nations Security Council (UNSC)

- The UNSC, or the United Nations Security Council, is one of the six main organs of the United Nations (UN).
- It holds the primary responsibility for the **maintenance of international peace and security.**
- The Security Council has **15 members** in total.
- There are **five permanent members**, often referred to as the **P5**. These are the **United States, the United Kingdom, France, Russia (formerly the Soviet Union), and China.** These members have the power to veto any substantive Security Council resolution.
- In addition to the P5, there are **10 non-permanent members** elected by the General Assembly for **two-year terms**. These members don't possess veto power.
- Among the most significant powers of the UNSC is the **veto** held by the five permanent members. If any of these members cast a negative vote in the 15-member Security Council, the resolution or decision will not be adopted.
- The UNSC is responsible for determining the existence of a threat to the peace or act of aggression. It calls upon the parties to a dispute to settle it by peaceful means and recommends methods of adjustment or terms of settlement.
- The Security Council can take a range of measures to ensure that conflicts are resolved. These measures range from economic sanctions to international military action.

- The functioning and decisions of the UNSC are essential for international diplomatic relations, conflict resolution, and global security.

Details of the Proposed Mission
- This is distinct from the UN peacekeeping mission to Haiti that ended in 2017.
- **It is led by Kenya** with support from Bahamas, Jamaica, and Antigua and Barbuda.
- The aim of the mission is:
- Offer "operational support" to the Haitian National Police.
- Build capacity to counter gangs, improve security.
- Secure critical infrastructures like ports and airports.
- Assist in creating conditions for future elections.
- Forces will have authority to make arrests in coordination with Haitian police. Expected force strength is 2,000 personnel.
- It also intends to foster favorable conditions in the country in order to facilitate elections. Haiti has not held elections since 2016.
- U.S. pledges $100 million for logistical support but won't send troops.

Reasons for Delay in Intervention
- Haiti's troubled history with foreign military interventions.
- UN peacekeeping mission from 2004 to 2017 faced allegations such as:
- Cholera epidemic blamed on sewage runoff from a peacekeeper camp.
- Allegations of sexual abuse against the UN peacekeepers.
- Skepticism among Haitians regarding foreign armed force intervention.
- International hesitance due to PM Ariel Henry's lack of popular support.

Conclusion
Haiti's escalating crisis has necessitated international intervention. Despite initial hesitations and historical complications, the UNSC has approved a Kenya-led security mission to stabilize Haiti and assist the national police. The mission has distinct aims and operational capabilities, setting it apart from previous interventions.

With Change in Political Leadership in Maldives Changing India- Maldives Relations

Priority: High

Primary Source: The Hindu

Relevance: India and its neighborhood- relations. Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests. Effect of policies and politics of developed and developing countries on India's interests, Indian diaspora.

Prepp Prelims Booster: India-Maldives Ties,

Prepp Mains Booster: Significance of India-Maldives Ties and Challenges Associated with it

Context
- Mohamed Muizzu, the President-elect of the Maldives, has declared his intention to remove Indian troops from the country, highlighting a commitment to national sovereignty.
- This move underscores the gravity of his foreign policy shift, contradicting the stance of previous pro-India Maldivian governments.

How has engagement between the government of India and the Maldives changed over the years?
- Although relations between the two countries have traditionally been warm, bilateral relations have been affected by the party in government in the Maldives.
- **Close ties under President Gayoom:** Ties between the two countries strengthened In 1978 after President Maumoon Abdul Gayoom came to power.
  - In 1988, India dispatched troops and ships under **Operation Cactus to help overthrow a coup attempted by Sri Lankan Tamil fighters and a Maldivian businessman.**
- **Period of democratic transition:** In **2008, the Maldives transitioned to a multi-party democracy replacing the Executive Presidency system.**
  - During the Presidency of Mohamed Nasheed who was elected following a long human rights and democracy campaign, **India initiated closer security cooperation with the Maldives by loaning equipment for reconnaissance, surveillance, and coast guard security.**
- **2011-2015 crisis:** Nasheed resigned in 2012 and was succeeded by Abdulla Yameen of the opposition PPM due to an uprising in the security forces over his decision to act against a judge who granted bail to political Islamist activists who defaced statues gifted by India during the 2009 SAARC summit.
  - Nasheed was imprisoned and convicted on terror charges and banned from contesting in elections.
  - An emergency was also imposed in the country.
  - **India objected to these actions and called for democracy in the island country, which caused relations between the two countries to become strained.**
- **Shift towards China:** President Yameen later signed an FTA with China and invited Chinese companies to invest in major projects like the **Friendship Bridge** while threatening to evict Indian personnel.

- **India First:** In 2018, Yameen was defeated by Solih, a Nasheed ally, who adopted an **"India First"** policy that aligned with Prime Minister Narendra Modi's **"Neighbour First" policy.**
  o India was invited to start infrastructure projects such as the **Greater Male connectivity project** and the **Uthuru Thilafalhu project** in which India will build and maintain a coastguard harbor base.
  o The Uthutu Thilafalhu project led to the "India Out" Campaign as critics alleged that the project was a cover for India to undertake military activities in the country.
  o The anti-India sentiment worsened when anti-India protests were banned by President Solih by claiming that they were a threat to national security.
- **India Out under Dr. Muizzu:** In 2023, Dr. Mohamed Muizzu of the PNC-PPM coalition defeated incumbent Ibrahim Solih of the MDP with 54% of the total votes.
  o Dr. Muizzu, who campaigned on an "**India Out**" plank stated that he would prioritize the sovereignty of the Maldives.
  o The **India Out Campaign has been described as a reaction to the alleged Indian hegemony in the Maldives and the increasing Indian military presence in the Maldives which critics have claimed is a threat to the sovereignty of the Maldives.**
  o He claimed that the people of the Maldives were not in favor of the continued presence of Indian naval and airforce personnel, who have been stationed in the **Addu** and **Lammu islands** since 2013 to maintain and operate two helicopters and Dornier aircraft loaned to the Maldives by India.
  o The statements were aimed at **placating China** which has been unhappy with the pro-India policies of the Solih Presidency.

India's Response
  o The Indian High Commissioner met the President-elect and discussed various aspects of the bilateral relationship including development cooperation.
  o He claimed that the focus of the India-Maldives partnership is capacity building and cooperation on shared challenges like transnational crimes and humanitarian assistance.

'India First' Policy
- The 'India First' policy with regard to the Maldives refers to a foreign policy orientation by the Maldives that prioritizes and emphasizes strong ties with India.
- This policy was notably articulated during the presidency of Ibrahim Mohamed Solih, who came into office in 2018.
- The 'India First' policy was seen as a corrective measure to the previous administration's tilt towards China, and it aimed to restore and reinforce the traditionally strong relationship between India and the Maldives.

'India Out' Policy
- The 'India Out' policy refers to a political campaign and sentiment in the Maldives that calls for the removal of Indian military presence and influence from the country.
- This perspective is often expressed by certain political factions within the Maldives who are concerned about India's growing footprint in the archipelago, especially in terms of security and military cooperation.
- The 'India Out' sentiment gained prominence in the run-up to the presidential elections in the Maldives and was a significant aspect of President-elect Mohamed Muizzu's campaign, which was supported by the opposition bloc that included President Yameen's party.
- The practical implications of such a policy would depend on the complex interplay of domestic politics, economic imperatives, and regional strategic dynamics.

India-Maldives ties
- India was one of the first countries to recognize and establish diplomatic relations with the Maldives following its **independence from the British in 1965**.
- **Historical ties**: The two countries share ethnic, linguistic, cultural, religious, and commercial ties which have existed since ancient times.
  o The **Maldives were attacked and conquered by the Chola emperor Raja Raja Chola I.**
  o **While the Maldives were a British protectorate years (1887-1965), it depended on India for essentials and communication with the rest of the world.**
- **Defense:**
  o A comprehensive Action Plan for Defence was signed in 2016 to consolidate the defense partnership between the two countries.
  o According to the Maldives National Defence Force, **75 Indian military personnel were stationed in the Maldives as of 2021**.
  o More than **70% of the Maldivian Defence Forces' training requirements are provided by India**.
  o India and Maldives participate in **joint military exercises - Ekuverin, Dosti, Ekatha, and Operation Shield.**
  o **India, Sri Lanka, and the Maldives** have acted through the **Colombo Security Conclave** to improve security cooperation with the island and coastal states of the Indian Ocean since 2011.
- **Economic:**
  o **India became the Maldives' 3rd largest trade partner in 2021** underlining India's importance to the island nation.
  o The RBI and the Maldives Monetary Authority signed a Bilateral USD Currency Swap Agreement in July 2019.

- o **Greater Male Connectivity Project:** Indian engineering company AFCONS will build the 6.74-km bridge and causeway link to **connect Malé with Villingili, Gulhifalhu, and Thilafushi**, through a grant of $100 million and a line of credit of $400 million from India.
- o The **State Bank of India** which played a crucial role in the development of the Maldives' tourist economy **is still the largest bank in the Maldives**.
- **Humanitarian assistance:** India has demonstrated its commitment to being the **First Provider of humanitarian assistance and disaster relief (HADR) in the Indian Ocean region.**
- o India was the first country to offer assistance during the 1988 coup, the 2004 tsunami, and the 2014 water shortage crisis.
- o **Operation Neer (2014):** India supplied drinking water to the Maldives to deal with the drinking water crisis after the collapse of the country's only water treatment plant.
- o **Operation Sanjeevani:** India supplied 6.2 tonnes of essential medicines to Maldives to assist in the fight against COVID-19.
- **India's bilateral assistance to the Maldives:**
- o India provides the Maldives with most essential items like rice, wheat flour, sugar, potatoes and onions, eggs, vegetables, river sand, and construction material in bulk.
- o India established a 200-bed hospital, the **Indira Gandhi Memorial Hospital,** to promote healthcare in the Maldives.
- o India has also supported the establishment of the **Maldives Institute of Technical Education** which has provided technical training and employability to Maldivian youth.
- o A credit line was provided by India for the **Hanimaadhoo International Airport Development project.**
- o The **National College for Policing and Law Enforcement (NCPLE),** inaugurated by the Indian External Affairs Minister in 2022 is the largest grant project executed by India in the Maldives.
- **Diaspora:**
- o The Indian expatriate community in the Maldives numbers around 27,000 people.
- o The Indian diaspora is strongly involved in the health and education sectors of the Maldives.

How is the India-Maldives relationship significant?
- **Security:** India and the Maldives are both located in the **Indo-Pacific region.**
- o Stability in the Maldives is crucial for regional security and for the protection of India's regional interests.
- o **India acts as the first line of defense for the Maldives against maritime threats such as piracy, terrorism, trafficking, narcotics, etc.**

- **Economic**: Maldives' location places it between important international shipping lanes between the **Gulf of Aden and Gulf of Hormuz in West Asia** and the **Strait of Malacca in Southeast Asia** that handle vital commodities including energy.
- o Additionally, its close proximity to India makes it significant to the success of India's blue economy policy.
- **Multilateralism:** India and Maldives are aligned on various global issues including issues faced by countries of the **Global South.**
- o The two countries are also members of multilateral forums like the **Commonwealth and NAM.**
- **Trade and Tourism:** In 2021, India-Maldives bilateral trade exceeded $300 million.
- o **India is a significant source of tourism for the Maldives (12% in 2023),** which is a major contributor to the island nation's economic growth.
- o Maldives also contributes a significant part of India's revenues from **medical tourism.**
- o In March 2022, India & Maldives agreed to an open skies arrangement which will further improve connectivity between the two countries.
- o Maldives is the first nation with which India has set up an Air Travel Bubble, which will facilitate the movement of people from both countries for employment, tourism, medical emergencies, etc.

What are the major challenges in the India-Maldives relationship
Political Instability
- The Maldives has regularly suffered from political instability.
- As a result, India has had to adopt a cautious approach as part of its neighborhood policy in order to balance its aspirations of regional stability and democracy.

India Out
- In 2020, the Maldivian opposition launched protests with the theme "India Out " against the MoU on maritime security between India and Maldives to construct a Coast Guard harbor base at the Uthuru Thilafalhu atoll.
- Although construction was inaugurated in 2023, it has been impacted by the India Out protests.
- The protests also opposed the helicopters loaned by India and the presence of the Indian troops to operate them.
- China has opposed Indian presence in the Maldives and expressed support for the India Out campaign which will allow it to expand its security and defense influence in the crucial IOR region.

Radicalization
- India has expressed concern over the **increasing radicalization of the Maldives** by extremist groups like ISIS.
- The political upheaval and socioeconomic crisis in the Maldives is a m**ajor security concern for the Maldives**

and the **Indo-Pacific region as a whole, including India.**

China's influence

- China's geopolitical aggressiveness in the South Asian region has seen it attempt to expand its strategic footprint in South Asia in the Maldives through initiatives like the **String of Pearls** and the **Maritime Silk Route**.
- India has also expressed concerns about the d**evelopment of China-controlled ports and military facilities** in Indian Ocean region countries like Sri Lanka, Pakistan, and Maldives which is a major challenge to India's strategic interests and regional security.
- **Maldives' foreign policy has shifted from its traditional pro-India stance to a China-friendly policy,** creating apprehensions in the neighborhood about growing Chinese influence.

India's concerns:

- **China's policy of interference in internal politics** as well as its **support to conservative elements in the Maldives** and its **debt trap strategy b** which India fears could lead to Chinese hegemony in the Maldives.
- The India-Out approach which is likely to be adopted by the new President-Elect of the Maldives is another major concern for India.

How has India responded?

- India has attempted to intensify its diplomatic and strategic engagement with Maldives and other countries in the Indian Ocean region.
- In order to strengthen its regional influence, India has committed economic assistance, expanded security and defense cooperation, and participated in infrastructure projects.
- The **"Neighborhood First"** approach of India's foreign policy aims to counterbalance China's increasing presence by strengthening friendly ties with the nations of its neighborhood.

Maldives

- The Maldives is an **Indian Ocean archipelago** of around 1,192 islands that are strewn across the Equator.
- It is a popular tourist destination and is also in close proximity to international sea lanes.
- It is the smallest country in Asia and is categorized as a **Small Island Developing State (SIDS).**
- It is the lowest-lying country on the planet and is thus in significant danger from the rise in sea level and other oceanic threats such as tsunamis.
- Approximately 80% of the Maldives is expected to vanish due to climate change by 2050.
- It consists mainly of coral reefs and atolls with most of the area being classified as Exclusive Economic Zones (EEZs).
- **Maldives is separated from the Lakshadweep islands by the Eight Degree Channel.**

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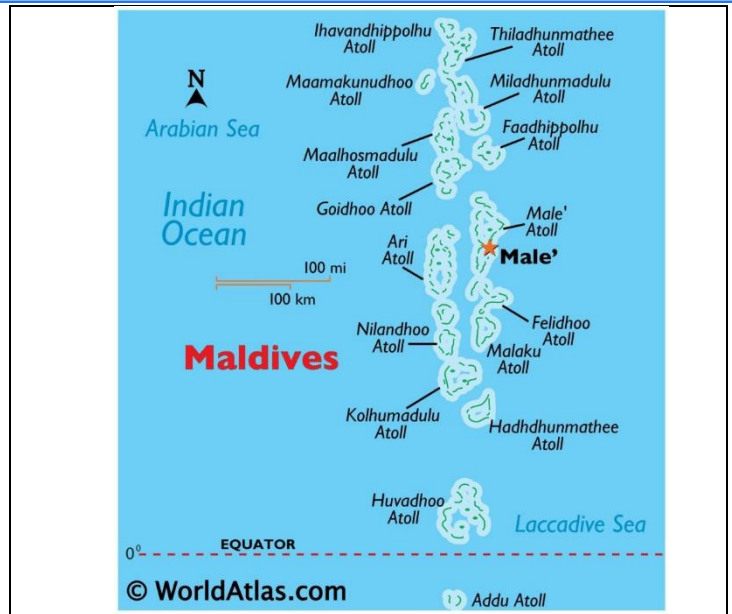
Conclusion

- India must maintain a favorable relationship with the Maldives and uphold its tradition of promoting a multi-polar, rule-based world order given concerns about the regional stability and security of the IOR due to expanding Chinese influence.
- Therefore, India must aim to strengthen its relations with the Maldives by prioritizing infrastructural development while addressing the concerns of the 'India Out' campaign.

UPSC Mains Practice Questions

Q.1) Discuss the political developments in Maldives in the last two years. Should they be of any cause of concern to India? (UPSC GS2 2013)

MCQs

Question: As per the Human Development Index given by UNDP, which one of the following sequences of South Asian countries is correct, in the order of higher to lower development? (UPSC CSE 2003)

a.   India–Sri Lanka–Pakistan–Maldives
b.   Maldives–Sri Lanka–India–Pakistan
c.   Sri Lanka–Maldives–India–Pakistan
d.   Maldives–India–Pakistan–Sri Lanka

Answer: (b)

(Miscellaneous)

Maharashtra State Govt Accepts Shinde Panel Report On Procedure To Grant Kunbi Certificates To Marathas

Priority: High

Primary Source: The Hindu
Relevance: Polity & Governance
Prepp Prelims Booster: Reservations for Marathas, Kunbis
Prepp Mains Booster: Issues Related to the Kunbis and the Claim for Reservations of Marathas

Context

- Recently, the **Maharashtra Government accepted the first report of a committee** headed by retired high

court judge Sandeep Shinde, appointed to decide the **procedure for granting Kunbi caste certificates to the Marathas in the Marathwada region.**

- A five-member committee led by retired judge Sandeep Shinde will **establish the Standard Operating Procedure (SOP) for granting caste certificates based on Nizam-era documentation.**

History of Demand for Reservation of Marathas

- The **Marathas are a diverse group of castes, including peasants and landowners, constituting approximately 33% of the state's population.**
- Historically, the **Marathas have been recognized as a 'warrior' caste, known for their significant land holdings.** They have played a pivotal role in the state's history.
- Since the formation of the Maharashtra state in 1960, the Maratha community has wielded considerable political power. Out of the 20 chief ministers who have served, 12 have been from the Maratha community.
- Despite facing challenges such as land division and agrarian issues, the Maratha community continues to play a crucial role in the state's rural economy.
- The **Marathas have been advocating for reservation in government jobs and educational institutions for an extended period.** The first protest took place 32 years ago, initiated by Mathadi Labour Union leader Annasaheb Patil in Mumbai.
- Since 1981, the **issue of Maratha reservation has been a central focus in the state's political landscape,** triggering widespread protests.
- **Manoj Jarange, a Maratha activist, has been a prominent figure these days in the Maratha community's fight for reservation** in Maharashtra. He has led multiple agitations and peaceful protests, including a 90-day dharna and a hunger strike.

Maratha Reservation Background

- In 2018, the Maharashtra government formed a nine-member State Backward Class Commission, led by **Justice M.G. Gaikwad**, which recommended reservation status for the Maratha community.
- In the same year (2018), the **Maharashtra government passed a law that allocated 16% reservation in employment opportunities and educational admissions to the Maratha community.**
- This law categorized the Maratha community as a socially and educationally backward class (SEBC).
- In 2021, the court held that the 2018 act goes against Articles 14 and 15 of the Indian Constitution. It **exceeds the ceiling of 50% reservation set by the 1992 Indra Sawhney judgment**.
- In November 2022, after the Supreme Court's validation of the 10% quota for Economically Weaker Sections (EWS), the state government announced that economically disadvantaged members of the Maratha

community could utilize the EWS quota until the resolution of the Maratha reservation issue.
- Maharashtra currently offers 62% reservation in educational institutions and government jobs, including 10% for the economically weaker sections.

About Kunbi Community

- The **Kunbi community in Maharashtra is associated with agriculture-related occupation and are grouped under the Other Backward Classes (OBC) category** in the state.
- Giving Marathas Kunbi caste certificates would mean that Marathas would be counted as OBCs and would get the benefit of reservation that OBCs get.
- To be eligible for Kunbi certificates, **individuals from the Maratha community in Marathwada must have references to their Kunbi status in Nizam-era** revenue and education records.

Who are Kunbis?

- The **community in Marathwada was initially categorized as Kunbis, a farmer community,** when the region was part of the Hyderabad province.
- When Marathwada became part of Maharashtra, the community's classification changed to Marathas.
- **In 1967, Punjab Rao Deshmukh** advocated for OBC status for the Marathas in the Vidarbha region. Subsequently, in 2004, the Maharashtra government issued a Government Resolution (GR) classifying the Marathas in Vidarbha as Kunbis.
- Now, the **Marathas in the Marathwada region are requesting Kunbi caste certificates,** and the government has asked them to provide historical documents that establish their Kunbi status during the Nizam era.

Marathwada Region
- The Marathwada region was part of the erstwhile Hyderabad state under the Nizam's rule before it became part of Maharashtra in 1960.
- The Nizam's rule recognised the rights of the Kunbis, mainly an agricultural sub caste within the Maratha community.
- Post-independence, many of the Kunbis began calling themselves Marathas in an effort to seek upward social mobility.
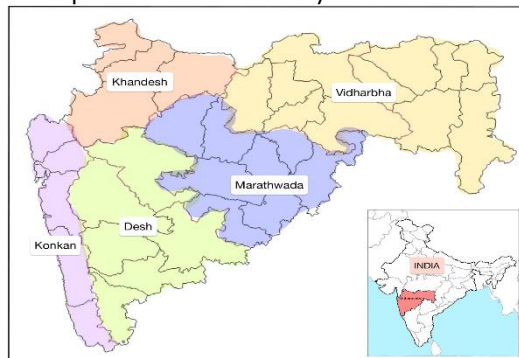
Constitutional Provisions related to Reservation of Weaker Section of Society
- **Article 15(4):** It empowers the state to make special provisions for the advancement of any socially and educationally backward classes of citizens or for the Scheduled Castes and the Scheduled Tribes.
- **Article 16(4):** It enables the State to make provision for reservation of posts in government jobs in favour of any backward class of citizens which, in the opinion of the State, is not adequately represented in the services under the State.
- **Article 46:** The State shall promote educational and economic interests of the weaker sections of the people particularly that of the Scheduled Castes (SCs), Scheduled Tribes (STs) and other weaker sections.
- **Article 335:** Directs the government to take special measures to ensure the advancement of Scheduled Castes and Scheduled Tribes, such as reservations in government services and posts.

PYQ
Question: The first Indian ruler who joined the Subsidiary Alliance was: **(UPSC 1994)**
   a. The Nawab of Oudh
   b. The Nizam of Hyderabad
   c. Peshwa Baji Rao II
   d. The King of Travancore
Answer: (b)

Nobel Prize 2023

Priority: Low
Primary Source: The Hindu
Relevance: Art and Culture
Prepp Prelims Booster: Nobel Prize 2023
Prepp Mains Booster: Nobel Prize

Context
- Recently, the **2023 Nobel Prizes has been announced for different fields.**
- The **Swedish Academy has given the prize for literature, the Karolinska Institute for physiology or medicine,** and the **Royal Swedish Academy of Sciences has given the prizes for physics, chemistry, and economics.** The Nobel **Peace Prize has been given out by the Oslo-based Norwegian Nobel Committee.**

List of Nobel Prize 2023

Field	Winners	Image
Physiology/Medicine	Katalin Kariko and Drew Weissman	
Physics	Pierre Agostini, Ferenc Krausz and Anne L'Huillier	
Chemistry	Moungi Bawendi, Louis Brus and Alexei Ekimov	
Literature	Jon Fosse	
Peace	Narges Mohammadi	
Economic Sciences	Claudia Goldin	

About Nobel Prize
- The Nobel Prize was established through the will of businessman and entrepreneur **Alfred Nobel** who left the majority of his fortune to rewarding contributions to the fields of physics, chemistry, medicine, literature, and peace that have conferred the greatest benefit to humankind.
- In 1968, **Sveriges Riksbank, the Swedish central bank,** established the **Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel,** which is presented as the Nobel Prize in Economics.
- Alfred Nobel held 355 patents and is most famous for the invention of dynamite.
- The **Nobel Prizes have been awarded annually since 1901** with few exceptions such as World War 1 and World War 2.
- **Winnings:**
  o Laureates receive a Nobel Prize diploma, a Nobel Prize medal, and a document detailing the Nobel Prize amount
  o The prize money was raised by 1 million kronor in 2023 and amounts to 11 million Swedish kronor.
- **Conditions:**
  o The Prize can be shared by a **maximum of three individuals**, or in the case of the Peace Prize, it can also be awarded to an organization.
  o It **cannot be awarded posthumously** but **since 1974, it has been awarded to recipients who have died after the announcement.**

Conclusion
The Nobel Prize stands as the most prestigious accolade globally within its respective field, bestowed upon individuals or organizations for their outstanding contributions to humanity during the preceding year.

Places in the news

India

Kanwar lake (Kabartal Wetland)

Reason to be in news: Kanwar Lake is facing the threat of running dry. Kanwar Lake is a freshwater natural wetland in Bihar. It draws water from the confluence of the Gandak, Bia and Kareh rivers. It is an important stopover along the Central Asian Flyway, with 58 migratory waterbirds using it to rest and refuel. It is an ox-bow lake. Oxbow lake is a lake

located in an abandoned meander loop of a river channel. In 2020, it was designated as Ramsar wetland site.


Kabartal Wetland
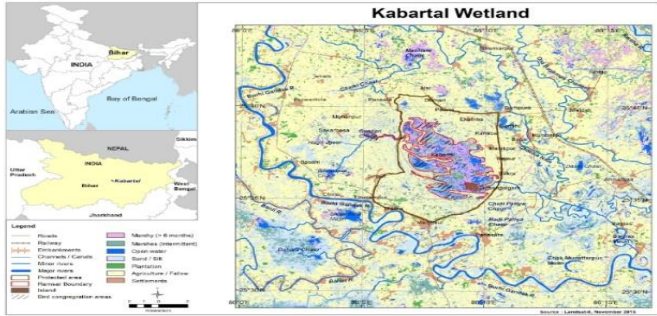
Lemru Elephant Reserves

Reason to be in news: The request of the Chhattisgarh government to de-notify coal mines falling under the Lemru Elephant Corridor has been accepted by the Ministry of Coal. Lemru is an elephant reserve established to prevent human animal conflict in the region, with elephants moving into Chhattisgarh from Odisha and Jharkhand. The reserve is part of the Hasdeo Aranya forests situated in Korba district and is known as the lungs of Chhattisgarh. This forest is a very diverse biozone that is also rich in coal deposits.


Chilika Lake

Reason to be in news: Recently, migratory birds have begun their annual journey to Chilika, India's largest waterbird habitat in Odisha, in advance of winter this year. Chilika Lake, the largest lagoon in Asia and the second-largest in the world, in the state of Odisha and is renowned for its ecological significance and natural beauty. It serves as the primary wintering habitat for migratory birds on the Indian sub-continent and provides a haven for various threatened species of flora and fauna. In 1981, it gained international recognition as the first Indian wetland of global importance under the Ramsar Convention.

Map of Chilika Lake
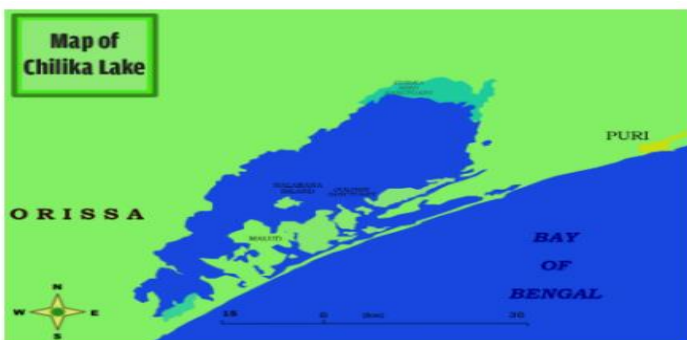
Musi River

Reason to be in news: Environmental activists recently appealed to the Chief Justice of the Telangana High Court to set up an ecological heritage bench for the restoration of the Musi River and other water bodies across the state. Musi River is a river that flows through the southern Indian state of Telangana. It is a tributary of the Krishna River on the Deccan Plateau. It was known as the Muchukunda River in earlier days.
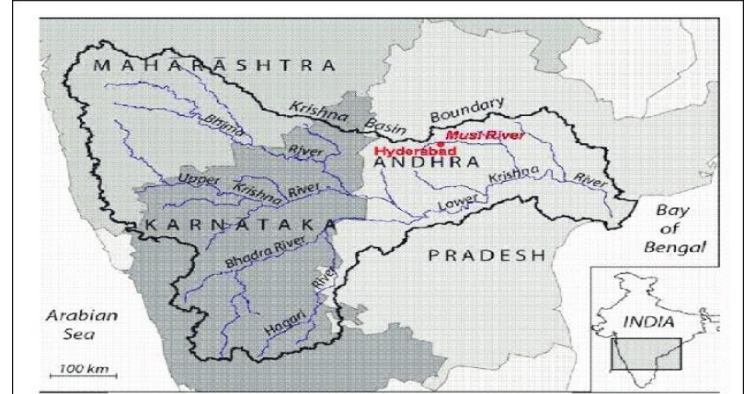
Vizhinjam Port

Reason to be in news: The Vizhinjam International Seaport Project aimed at building India's first international deepwater transhipment port. It is an ambitious project taken up by the Government of Kerala. It is located on the southern tip of the Indian Peninsula. Just 10 nautical miles from the major international sea route and east-west shipping axis.

Ichamati River

Reason to be in news: The Minister of State for Ports, Shipping, and Waterways, recently inaugurated the dredging work at National Waterway 44 (Ichamati River) in West Bengal. The Ichamati River flows through both India and Bangladesh, serving as a natural border between the two countries for a significant portion of its course. The river is divided into three parts. The longer part of the river originates from the Mathabhanga River, which is a distributary of the Padma River (a major river in Bangladesh). This section of the Ichamati River flows for

approximately 208 kilometres. The main channel of the Ichamati River eventually joins the Kalindi River.

Simlipal Tiger Reserve (STR)

Reason to be in news: The Government of Odisha began its own tiger census in STR. Simlipal Tiger Reserve (STR) is located within the Mayurbhanj District, in the Northernmost part of Odisha. It is surrounded by high plateaus and hills, the highest peak being the twin peaks of Khairiburu and Meghashini (1515m above mean sea level). It was declared a 'Tiger Reserve' in the year 1956 and included under the national conservation programme 'Project Tiger' in 1973. The STR, along with a 'transitional area' of 2250 sq. km, was included as a part of the World Network of Biosphere Reserves by UNESCO in the year 2009.

Amangarh Tiger Reserve

Reason to be in news: The tiger population at the Amangarh Tiger Reserve has increased from 21 mature tigers and six cubs in 2021 to 28 mature tigers and four cubs now. Amangarh Tiger Reserve is located in Amangarh, in Bijnor district, in the state of Uttar Pradesh. It is situated in the Terai region and covers an area of around 578 sq km. It shares its boundaries with Jim Corbett National Park of Uttarakhand. It was originally part of the Jim Corbett National Park, and after the state of Uttarakhand was carved out of Uttar Pradesh, Jim Corbett went to Uttarakhand, and Amangarh remained in Uttar Pradesh. It was declared a tiger reserve in 2012.

World

Rafah Crossing

Reason to be in news: In response to a devastating cross-border infiltration by Hamas fighters on October 7 that killed over 1,300 Israelis, Israel has imposed a "total blockade" of Gaza, cutting off electricity to the territory and stopping all supplies of food and fuel.Hence, the only likely route for humanitarian aid to enter Gaza is via Rafah in Egypt. Rafah crossing is crossing between the Gaza Strip and Egypt and is the sole route for aid to enter Gaza directly outside Israel which is controlled by Egypt

The crossing is at the south of the Gaza Strip and wedged between Israel, Egypt and the Mediterranean Sea.

Sinai Peninsula

Reason to be in news: The Sinai peninsula, which also borders Israel, is located between the Mediterranean Sea to the north and the Red Sea to the south. As the only part of Egypt to be located in Asia, it acts as a land bridge between Asia and Africa. Historically, it was controlled by the Ottoman Empire and later by British colonial powers.

Maldives

Reason to be in news: Mohamamd Muizzu is elected as New Maldives President. The Maldives is an archipelagic state and country in South Asia, situated in the Indian Ocean. It lies southwest of Sri Lanka and India, about 750 kilometres from the Asian continent's mainland. Eight Degree Channel separates Indian Minicoy (part of Lakshadweep Islands) from that of Maldives.

Amazon River

Reason to be in news: Over 100 Amazon river dolphins have been found dead in a tributary of the Amazon river in Brazil. Amazon river dolphins (IUCN Status: Endangered) are found only in the rivers of South America. It is the largest drainage system in the world in terms of the volume of its flow and the area of its Basin. It is the 2nd longest river (6,437 km) after the Nile. Its source is in the Andes Mountains (Peru) and flowing into the Atlantic Ocean.

Slovakia

Reason to be in news: Slovakia's leftist election winner Robert Fico got a two week window to negotiate a coalition government. Slovakia is a landlocked country in Central Europe. It is bordered by Poland to the north, Ukraine to the east, Hungary to the south, Austria to the west, and the Czech Republic to the northwest.

Syria

Reason to be in news: Turkey steps up strikes on militants as conflict escalates in Syria. Syria is a country located on the east coast of the Mediterranean Sea in southwestern Asia. Its area includes territory in the Golan Heights that has been occupied by Israel since 1967. It is bounded by Turkey (north), Iraq (east and southeast), Jordan (south), Lebanon and Israel (southwest). The capital is Damascus.

Catalonia (Spain)

Reason to be in news: Mass protests were organised in Barcelona against possible amnesty for Catalan separatists. Catalonia is an autonomous region in northeastern Spain. Most of its territory lies on the northeast of the Iberian Peninsula, to the south of the Pyrenees mountain range. Catalonia is administratively divided into four provinces: Barcelona, Girona, Lleida, and Tarragona.

Ecuador

Reason to be in news: Recently, Daniel Noboa, 35, was elected Ecuador's youngest president. It is a country in northwestern South America, bordered by Colombia on the north, Peru on the east and south, and the Pacific Ocean on the west. Ecuador also includes the Galápagos Islands in the Pacific, about 1,000 kilometers (621 mi) west of the mainland. The country's capital is Quito and its largest city is Guayaquil.

Marshall Island

Reason to be in the news: The United States signed a new 20-year agreement on economic assistance to the Marshall Islands. Marshall Islands is an island nation in the Pacific Ocean, known for its atolls and islands. Its history includes Spanish and German influence, Japanese occupation during World War I, and U.S. administration post-World War II, including nuclear tests. It gained independence in 1979 through a Compact of Free Association with the United States.

Lao PDR

Reason to be in news: Recently, the WHO announced that the Lao People's Democratic Republic had officially eliminated lymphatic filariasis. This was the second neglected tropical disease (NTD) eliminated by the country following the elimination of trachoma as a public health hazard in 2017. Laos, landlocked country of northeast-central mainland Southeast Asia. Laos is bounded to the north by China, to the northeast and east by Vietnam, to the south by Cambodia, to the west by Thailand, and to the northwest of Myanmar.

Iceland

Reason to be in news: Prime Minister of Iceland joined the women on strike over equal pay. It is an Island country in the North Atlantic Ocean located between Greenland and Norway. Iceland is a member of NATO. Its coastline meets Greenland Sea (north), Norwegian Sea (east), Atlantic Ocean (south and west), and Denmark Strait (separates it from Greenland on northwest).

Bering Sea

Reason to be in news: A recent study revealed a link between declining Bering Sea ice and increasing wildfire hazard in northeast China. The Bering Sea is a marginal sea (located along the continental margins) in the northern Pacific Ocean and separates North America and Asia. It is bordered by the US, Kamchatka Peninsula, Russia, chain of the Aleutian Islands. It is connected with the Chukchi Sea of the Arctic Ocean via the Bering Strait.

Tanzania

Reason to be in news: Recently, India, Tanzania agreed to work on increasing trade in local currencies. Tanzania is a country in East Africa within the African Great Lakes region. It borders Uganda to the north; Kenya to the northeast; Comoro Islands and the Indian Ocean to the east; Mozambique and Malawi to the south; Zambia to the southwest; and Rwanda, Burundi, and the Democratic Republic of the Congo to the west. Mount Kilimanjaro, Africa's highest mountain, is in northeastern Tanzania.