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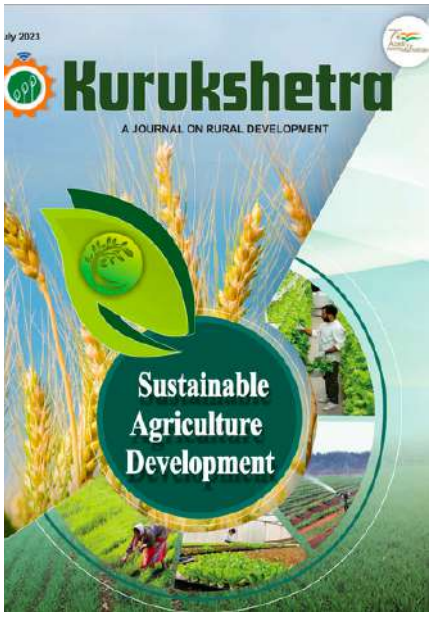

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1) Technology-facilitated sexual violence

(GS3: Challenges to Internal Security through Communication Networks, Role of Media and Social Networking Sites in Internal Security Challenges, Basics of Cyber Security)

Context

- With access to the Internet becoming a basic human need, sexual violence facilitated using technology is an issue that requires our immediate attention.

What is Technology-facilitated sexual violence?

- **Technology-facilitated sexual violence (TFSV)** refers to the **range of sexual and gender-based harmful behaviors** carried out through **information and communication technologies.**
- TFSV is especially frequent among **youth** and particularly **women**. For instance
    - A recent survey of 400 students from 111 Indian higher education institutions found that 60% of women experienced some form of TFSV compared to only 8% of men.
- **Various forms of TFSV:** TFSV can take many forms, such as morphed nude images, sexualised blackmailing and bullying, digital flashing, rape threats, and explicit comments and messages.
- It pervades every **social media and messaging platform**, but Instagram, Facebook and WhatsApp are the ones especially culpable.

Concerns associated with TFSV

- Abuse is linked to an individual's name and online profile, and can remain on the Internet forever.
- **Affects emotional wellbeing of survivors:** Many survivors experience depression, post-traumatic stress disorder, anxiety, and suicidal thoughts.
- Tangible consequences to online abuse includes **loss of academic or career prospects, social isolation, and violence and ostracisation by one's own family.**
- Aside from gender, factors such as **caste, religion, sexual orientation, class, and region** heightened their vulnerability online.
- **Lack of effective regulation:** India's **IT Act of 2000** criminalizes some forms of TFSV, but **ambiguities** in the law can deter survivors from reporting.
- **Lack of motivation from tech giants:** Technology giants are unmotivated to overhaul their safety features beyond the bare minimum.
    - For example, Meta's safety moderation algorithms are trained mostly in American English, so abusive content in Indian languages is less likely to be detected.
- TFSV **magnifies existing social inequalities** because the ability to safely access the Internet is crucial to women's agency, mobility, and economic development.

Way Forward

- **Facilitate open discussions:** Openly discussing TFSV without shaming or blaming survivors is essential step and is part of an ongoing movement to improve India's levels of sexual violence, from harassment to rape.
- **Focusing on the needs of survivors** who are the most affected is needed. Stigmatization

and trivialisation of their experiences should be avoided.
- **Anonymous helplines:** Schools should provide anonymous helplines and reporting options, mental health services from trained counselors.
- **Grassroot solutions:** Hosting regular workshops, safety training, facilitating discussions, and designating student organizations to lead education and response efforts is needed.
- **Conduct gender sensitisation programmes:** Although Legal regulations mandate that Institutions of higher education (IHEs) to conduct gender sensitisation programmes and empower students to engage their community, it has to be implemented with utmost care.
- **Constitute ICC:** IHEs must constitute, train, and manage Internal Complaints Committees (ICCs) as mandated under the Sexual Harassment of Women at Workplace Act, 2013 to investigate incidents of sexual harassment.
- The government should **strengthen its regulations for technology platforms** and compel social media companies to take accountability.
- Raising widespread awareness of TFSV and implementing solutions is vital while the problem is still within our control.

2) India's data protection law needs refinement

(GS3: Awareness in the fields of IT, Space, Computers, Robotics, Nano-technology, Bio-technology and issues relating to Intellectual Property Rights)

Context

- The **Digital Personal Data Protection Bill, 2022**, a draft of which was released for public consultation last year is expected to be tabled in Parliament's Monsoon Session this year (2023). This article discusses the **concerns surrounding the bill and the probable solutions** to fix them.

Important Provisions of Draft Digital Personal Data Protection Bill, 2022

- The Bill will apply to the **processing of digital personal data within India** where such data is collected online, or collected offline and is digitized. It will also apply to such processing outside India, if it is for offering goods or services or profiling individuals in India.
- **Personal data** may be processed only for a **lawful purpose** for which an individual has given consent. Consent may be deemed in certain cases.
- **Data fiduciaries** will be obligated to maintain the accuracy of data, keep data secure, and delete data once its purpose has been met.
- The Bill grants certain rights to individuals including the **right to obtain information, seek correction and erasure**, and grievance redressal.
- The central government may **exempt government agencies** from the application of provisions of the Bill in the interest of specified grounds such as security of the state, public order, and prevention of offenses.
- The central government will establish the **Data Protection Board of India** to adjudicate non-compliance with the provisions of the Bill.

Concerns surrounding the bill

- **Exemptions may violate right to privacy:** Exemptions to data processing by the State on

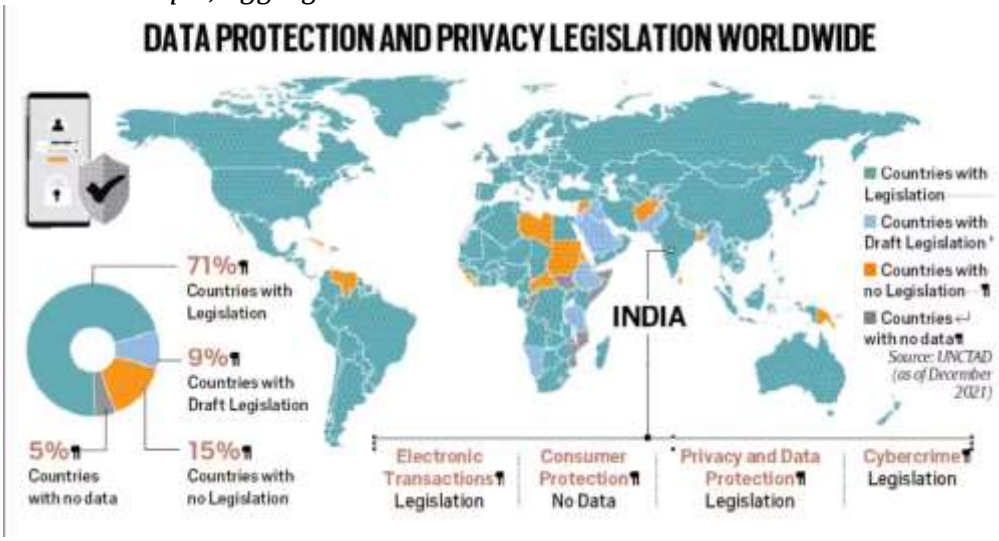
grounds such as national security may lead to data collection, processing and retention beyond what is necessary. This may violate the fundamental right to privacy.

- **Appointment of Data Protection Board of India:** The central government will prescribe the composition, manner and terms of appointments to the Data Protection Board of India. This raises a question about the independent functioning of the Board.
- **Limited scope:** In its scope and definition, the DPDP Bill **only protects personal data,** however in the modern data economy, entities use both personal and non-personal data to target, profile, predict, and monitor users.
    - *Personal data refers to any data that has the potential to directly or indirectly identify an individual.*
    - *Non-personal data is typically anonymous data that does not relate to a particular individual. For example, aggregate data on products which numerous users look at between 9pm and 11pm on Amazon.*
- **Limited reach of data protection board:** Inability of the proposed data protection board to initiate a proceeding of its own accord is a critical concern given that it is the authority that is entrusted with enforcing this law.
- **Limited knowledge of the users:** In the data economy, users have less control and limited knowledge of data transfers and exchanges.

Way Forward

- A **penal provision** in the Bill that provides for financial penalties on data-processing entities for the **re-identification of non-personal data into personal data** has to be included.
- A provision in the DPDP Bill should be made that allows the **data protection board to initiate complaints on its own** on the lines of the Competition Commission of India that has the power to initiate inquiries on its own.

Other takeaways



- An estimated **137 out of 194 countries** have put in place legislation to secure the protection of data and privacy, according to the **United Nations Conference on Trade and**

Development (UNCTAD), an intergovernmental organization within the United Nations Secretariat.

- **Africa and Asia show 61%** (33 countries out of 54) and **57%** (34 countries out of 60) adoption respectively. Only 48% of Least Developed Countries (22 out of 46) have data protection and privacy laws.
- **EU model:** The General Data Protection Regulation (GDPR) focuses on a comprehensive data protection law for processing of personal data. It has been criticized for being excessively stringent, and imposing many obligations on organizations processing data, but it is still the template for most of the legislation drafted around the world.
- **US model:** Privacy protection is largely defined as "liberty protection" focused on the protection of the individual's personal space from the government. It is viewed as being somewhat narrow in focus, because it enables collection of personal information as long as the individual is informed of such collection and use.
- **China model:** New Chinese laws on data privacy and security issued over the last 12 months include the Personal Information Protection Law (PIPL), which came into effect in November 2021. It gives Chinese data principals new rights as it seeks to prevent the misuse of personal data.

3) A big step in reducing the risk of disasters

(GS3: Disaster and Disaster Management)

Context

- This article highlights the issue of ever growing disasters and India's role in disaster risk reduction with its G20 presidency.

Recent instances of disasters

- Recently three continents were gripped by **heat waves.**
- Massive **forest fires** have ravaged parts of Greece and Canada.
- The river **Yamuna breached the highest flood level,** recorded 45 years ago, and inundated parts of Delhi.

Issues in disaster risk reduction

- **Respond than to prevent:** For too long, countries have spent billions responding to disasters rather than paying a little upfront to prevent or reduce their impact.
- **Not much progress:** Although progress has been made in **Sendai Framework for Disaster Risk Reduction 2015-2030,** which is the global road map for reducing disaster risks and losses, we are not where we need to be.

What is needed?

- The world needs to **do more to prevent the risk of losses** from all disasters, whether they are weather-related, earthquakes, or biological ones like COVID-19.
- With a **renewed sense of urgency and a people-centered approach**, we can significantly reduce disaster losses by 2030.

India's initiatives and their significance

- India has established the first **G20 Disaster Risk Reduction Working Group.**
    - As human **vulnerability to disasters is strongly linked to economic decisions,** the G20 is in a unique position to chart a new path of disaster risk-informed decision-making.

        - Because the countries that make up the G20 hold around **85% of the global GDP and about two-thirds of the world population.**
    - By this means apart from considering the potential impact of economic decisions on disaster risks, it also **leverages economic tools to reduce existing risks and prevent new ones.**
- India is **working to realize the goal of the UN Secretary General's Early Warnings for All Initiative,** which seeks to create universal coverage for everyone by the end of 2027.
- India launched with the UN in 2019 the **Coalition for Disaster Resilient Infrastructure,** to spur policy development and capacity support for disaster resilient infrastructure, especially in developing countries.
- India is currently collaborating to **create a global methodology for conducting infrastructure resilience reviews** and stress testing, based on the Principles for Resilient Infrastructure.

Priorities of G20 Disaster Risk Reduction Working Group

Enhancing early warning systems

- **Inclusive and multi-hazard early warning systems** are among the most effective means of reducing disaster deaths and economic losses.
    - For example, **during Cyclone Biparjoy**, effective systems for end-to-end early warning and action helped achieve zero deaths from the event in India.
- **Disruptive technologies** can be made use of by many countries to leapfrog into a regime where they can use global capacity for forecasting to meet local needs.

Resilient infrastructure

- Every country can withstand climate and disaster risks from assessing and enhancing the resilience of its critical infrastructure.
- Resilient infrastructure becomes the **lifeline of recovery** during a crisis.

Financing for disaster risk reduction

- Developing a new approach to financing disaster risk reduction is needed to transform risk reduction plans into concrete actions.
- This effort must be **led by finance and economy ministries** in collaboration with the **private sector** because the current funding deficit for disaster risk reduction is too large for governments to manage alone.
- **Using risk metrics to allocate resources** at the sub-national and local levels for disaster risk reduction needs to be studied and scaled. Eg: India and Indonesia.

Way Forward

- **Brazil, which will assume the Presidency of the G20** in December will have to build on these areas of work which India have started, scaling up ecosystem-based approaches and enhancing national and local response capacities.

4) Pathways for digital inclusion

(GS3: Achievements of Indians in Science & Technology; Indigenization of Technology and Developing New Technology)

Context

- This article highlights the measures to be taken to make Digital Public Infrastructure more inclusive.

What is Digital Public Infrastructure (DPI)?

- Digital Public Infrastructures are **digital pathways that enable a seamless provision of essential services,** benefiting society and they functionally mimic physical infrastructures.
- The remarkable transformation of India's digital landscape has been made possible by pioneering digital public infrastructure experiments.

India and DPI

- India has so far had a successful run in creating DPIs that have seen wide adoption.
    - **Aadhaar**: It has facilitated financial inclusion.
    - **Jan Dhan-Aadhaar-Mobile trinity:** It has played a pivotal role in transparent direct benefit transfers of welfare subsidies to bank accounts of the underserved.
    - **Unified Payments Interface:** It is an interoperable electronic payment system that has empowered us to conveniently transfer money from one bank account to another bank account digitally and in real-time.
    - **India stack:** Pivotal in unlocking the power of identity, payments, and data sharing to drive economic growth and foster a more inclusive digital economy.
- **Next decade DPIs:** Sector-specific DPIs such as account aggregators, Open Network for Digital Commerce, Ayushman Bharat Digital Mission and Agristack.

Significance of DPI

- Promotes **financial as well as digital inclusion** of citizens belonging to less privileged socio-economic backgrounds.
- **Empowers** small businesses.
- Improves **access to healthcare.**
- Holds the promise to **bridge the wealth gaps** and build an efficient and resilient digital economy that supports citizens and organizations.

Opportunities ahead for India

- To unlock the enormous benefits and efficiencies of DPIs, their adoption and acceptance at the population scale are important, requiring a **comprehensive approach to cater to diverse needs,** situations, and experiences.
- As India leads the conversation on DPIs and digital transformation at the G20, it is an opportune moment to steer the wheel towards **inclusive DPIs,** both globally and locally.

Measures to be taken for inclusive DPIs

- **Prioritizing users:**
    - Prioritize **user-centric design** to reduce the risks arising from the use of technology and prevent the exacerbation of extant inequalities amongst rural and urban populations, genders or economic groups.
    - Enable **compatible protocols** for feature

phones, assisted-tech models and Interactive Voice Response System should be explored and implemented, offering handholding support to consumers with limited smartphone access or low digital literacy to **avoid reinforcing disparities in DPI usage.**
    - The RBI's launch of **UPI123Pay** is a **notable step towards inclusivity,** which gives feature phone owners an app that enables them with most UPI features. The RBI has even enabled cardless cash withdrawals at ATMs through the UPI app.
- **Prioritize inclusion:**
    - Inclusion should be a key policy objective for DPI participants, embedded within the regulatory framework.
    - Several jurisdictions, including **Nigeria, the UK and Brazil,** have embraced open banking with the aim of financial inclusion within the regulatory framework itself.
- **Truly drive inclusivity:**
    - DPI participants must **identify the underserved target segments** and proactively develop use cases tailored to their needs.
    - For instance, for the MSMEs, who have limited access to formal sources of credit, the **account aggregator ecosystem** holds immense potential to enable access to low-cost, collateral-free sources of credit by utilizing the digital trail of all consented transactional data, including cash flows generated by the enterprise.
- To meaningfully adopt any DPI at the population scale, it is necessary to **build engagement with the DPI.**
    - Offline channels must be considered, alongside building institutional capacity to generate trust and awareness. For instance, business correspondents are a vital cog on which banks rely to increase access to and usage of financial products.

Significance of inclusive DPIs

- By prioritizing inclusion, DPIs can create an ecosystem that benefits all individuals, regardless of their digital literacy, thereby cultivating a **more equitable and accessible digital economy.**
- Offline channels would not only **ensure last-mile access** but also **foster digital comfort** among vulnerable consumers, empowering them to leverage these tools for their benefit.

5) Climate Sustainable Agriculture

(GS3: Conservation, Environmental Pollution and Degradation, Environmental Impact Assessment)

Context

- With an increasing population, the **question of food security** is going to be one of the biggest challenges facing humanity. The world will need to produce about **70 per cent more food by 2050** to feed an estimated 9 billion people.

- **Rising temperatures due to global warming** have already started eating up the yield of food grains and other agricultural crops. It has been predicted that the **temperature will rise 2-5°C by 2100** (IPCC).
- The interesting fact about the relationship between **global warming and agriculture** is that they are **interdependent**.

Global Warming Challenge

- The situation of agri-production is a two-way challenge: first, to **shield the production from the effects of global warming**, and second, to **increase the production for a larger population** in the years to come despite the symptoms of global warming.
- It is evaluated that an **increase in the average temperature of 2°C could lead to 20-40% reductions in cereal grain output,** notably in Asia and Africa.
- It should be noted that **agriculture is as much responsible** for the rapid deterioration of normal weather conditions as it is for being negatively impacted by global warming.
- **Agriculture, forestry, and the change of land-use,** account for as much as **25% of human-induced GHG emissions.** Agriculture is one of the main sources of **methane** and **nitrous oxide emissions.**
- The world needs to find ways to sustainable agriculture and the answer lies in **Climate-Smart Agriculture (CSA).**

What is Climate-Smart Agriculture?

- As defined by the **World Bank**, 'Climate-smart agriculture is an **integrated approach** to managing landscapes-cropland, livestock, forests and fisheries, that **address the interlinked challenges of food security and climate change.'**
- Basically, the CSA **targets three outcomes simultaneously:**
- **1. Increased productivity:** A 2020 **World Bank report** found that nearly **690 million people-or 8.9 per cent of the global population-are hungry,** up by nearly 60 million from 2015 onwards. **Saving this population from hunger** in the first place and providing them with **necessary nutrition** are the two major dimensions of increasing the productivity of agricultural produce.
- **2. Enhanced resilience:** Developing crops that could **sustain extreme weather conditions** like drought, flooding, etc., and **sustain against pests, diseases, and other climate-related risks and shocks;** and **improve capacity to adapt and grow** in the face of longer-term stresses like shortened seasons and erratic weather patterns are the major objectives under enhancing resilience.
- **3. Reduced emissions:** For climate-smart agriculture, it is imperative to find **ways to reduce emissions for each kilo of food produced, avoid deforestation, and identify ways to absorb carbon out of the atmosphere.**

Climate-Smart Crop Production Practices and Technologies

Use of quality seeds:

- The Food and Agriculture Organization (FAO) says that it is **impossible to harvest good crops with bad seeds.**
- To address the challenges posed by climate change, there is an increasingly urgent need for the **investment of greater resources** and efforts in **safeguarding the widest possible diversity of plant**

genetic resources for food and agriculture in their natural habitats, on farms and in gene banks.

Integrated Pest Management:

- Climate change will affect the spread and establishment of a wide range of insect pests, diseases, and weeds. Integrated Pest Management is an **ecosystem approach to crop production and protection.**
- Farmers who understand integrated pest management principles will be **better equipped to cope with the effects of climate change** and develop sound and location-specific adaptation strategies.

Improved Water Use and Management:

- **Climate change**, which will **increase crop evapotranspiration**, **change the quantity of rainfall and rainfall patterns,** and lead to **greater variations in river runoff and groundwater recharge**, will affect both rainfed and irrigated agriculture.
- To achieve sustainability in agriculture, **water resource management** comes on top. This can be achieved with **deficit irrigation** that can maximise crop yields per volume of water applied; and/or **more efficient irrigation technologies** that can reduce unproductive evaporation losses.
- The **integration of climate change into the planning and design of investments** can considerably reduce the risks to the water infrastructure used for agriculture.

Sustainable Soil and Land Management:

- **Integrated landscape planning and management** are instrumental for achieving climate-smart agriculture.
- Soil protection can be achieved by practising **direct seeding in combination with the sustainable management of crop residues** within a broader framework of **integrated soil fertility management.**

Sustainable Mechanisation:

- The **availability of appropriate machinery** to carry out sustainable crop management practices **increases productivity per unit of land.**
- The timely availability of agricultural equipment, such as drills, harvesters, and threshers, permits producers to plant, harvest, and process crops in an efficient manner.
- This **increases yields and reduces post-harvest losses**.

Government Measures

- To mitigate the impending impact of climate change, the Government has taken many initiatives.

1. National Innovation on Climate Resilient Agriculture (NICRA):

- This is a network project of the **Indian Council of Agricultural Research (ICAR)** launched in 2011 to **enhance the resilience of Indian agriculture** to climatic variability and climate change through development and application of improved production and risk management technologies.

2. National Mission on Sustainable Agriculture (NMSA):

- The Government is implementing the **National Action Plan on Climate Change (NAPCC)** which provides the overarching framework for climate actions, through national missions in specific areas.
- The NMSA works through **adoption of the sustainable development pathway** by progressively shifting to environment friendly technologies, adoption of energy efficient

equipments, conservation of natural resources, integrated farming, etc.

3. National Adaptation Fund for Climate Change (NAFCC):

- It was established to **meet the cost of adaptation to climate change** for the State and Union Territories of India that are **particularly vulnerable to the adverse effects of climate change.**

4. Climate Smart Village (CSV):

- It is an institutional approach to **test, implement, modify, and promote CSA at the local level** and to **enhance farmers' abilities** to adapt to climate change.

5. Paramparagat Krishi Vikas Yojna (PKVY):

- It is an extended component of Soil Health Management (SHM) launched in 2015 under NMSA with the objective of **supporting and promoting organic farming through adoption of organic village by cluster approach**, which in turn results in improvement of soil health.

6. Biotech-KISAN:

- It is a **scientist-farmer partnership scheme** launched in 2017 for agriculture innovation with an objective to connect science laboratories with the farmers to find out innovative solutions and technologies to be applied at farm level.

7. National Livestock Mission:

- This Mission was initiated by the Ministry of Agriculture and Farmers' Welfare in 2014-15 focusing mainly on **livestock development through sustainable approach** ultimately protecting the natural environment, ensuring bio-security, conserving animal bio-diversity and farmers' livelihood.

8. National Water Mission (NWM):

- A Mission was launched to ensure **Integrated Water Resource Management (IWRM)** for conserving the water sources and minimising its wastage and to optimise Water Use Efficiency (WUE) by 20 per cent including agriculture sector.

6) Dryland Farming

(GS3: Conservation, Environmental Pollution and Degradation, Environmental Impact Assessment)

Context

- Dryland farming refers to the **cultivation of crops under natural rainfall conditions without or very scanty irrigation.**
- Dryland areas are characterised by **low rainfall within a range of 375 mm to 1125 mm,** which are **unevenly distributed, highly erratic, and uncertain.**

Issues with Dryland Farming

- The **dependency on rainfall** makes these areas **less productive and economically fragile, increasing their vulnerability to environmental stresses and shocks.** These areas have **generally poor or degraded soils with low water holding capacities and multiple nutrient deficiencies.**
- The **distribution of rainfall** during the crop period is usually **lopsided**, with crops receiving a high amount of rain when it is not required and lack of it when they need it most.
- Dryland areas are often **more prone to drought and drought-like conditions** due to poor and weak structure of soil and depleting ground water tables.
- The soils of drylands are **generally deficient in major nutrients such as nitrogen and phosphorus.**

- In dryland areas, **land holdings are generally small** (less than two hectares), **fragmented**, and **scattered**, which makes farming less remunerative and difficult as well.
- Further, **frequent crop failures** coupled with a **lack of market facilities and weak infrastructure** ultimately lead to poor economic conditions of farmers. **Agrarian distress** is very common in dryland areas.

Distribution and Contributions

- Of the 141 million hectares of estimated crop area in the country, close to **80 million hectares is under dryland farming,** which is **52 per cent of the total cultivated land.**
- Despite struggling with issues of scanty resources, environmental stress, and low productivity, the **dryland agriculture is producing nearly 44 per cent of the total food grains in the country.**
- **Geographically**, dryland agriculture area in India includes the north western Rajasthan, the plateau region of central India, the alluvial plains of Ganga- Yamuna river basin, the central highlands of Gujarat, Maharashtra, and Madhya Pradesh, the shadow regions of Deccan in Maharashtra, the Deccan Plateau of Andhra Pradesh, and the Tamil Nadu highlands.

Dry farming crops

- Major dry farming crops include **millets**, **oilseeds, pulses, maize, cereals, and cotton.**
- Almost 80 per cent of Sorghum and Maize, 90 per cent of Pearl millet, 75 per cent of oilseeds, and approximately 95 per cent of pulses are obtained from dryland agriculture.
- The **dryland pulses** help the small holder farmers in arid and semi-arid regions **withstand weather variability.** Pulses are also called **climate smart crops** because they require less water' survive weather fluctuations, improve soil health and provide more nutrition per drop.
- Pulses in rainfed regions are **ideal for on-farm diversification.** As an **intercrop** with cereals and other crops, pulses bring in extra income for farmers and at the same time increase the yield of the main crop.
- Apart from contributing to food security, drylands also give a boost to the **textile sector by contributing more than 70 per cent cotton to industries.**

Strategies and Schemes

- Dryland farming is characterised by **long spells of drought, high temperatures, and other climatic adversities** which can lead to partial or complete crop failure. To mitigate the risk of crop failure, scientists have developed various techniques.
- **Agronomic approaches** have been developed basically to conserve soil and water, in order to achieve maximum productivity.
- **Selection of a proper cropping system** suitable to the area is one of the key strategies in drylands. The selection of **drought-tolerant or resistant varieties** is another key technique as varieties can withstand long periods of drought better than other varieties.
- Similarly, **proper tillage, fertiliser management, proper weed control, and adoption of plant measures** also contribute towards productivity.
- Improvement of soil condition can be achieved by planting **cover crops** which are known to **prevent slow erosion, improve soil health, enhance water**

availability and help control pests and diseases. Cover crops are plants that are planted to cover the soil rather than for the purpose of being harvested.

- **Mulching** is a common dryland technique to conserve moisture in the soil by preventing evaporation. Mulch is a material, generally straw, leaves, or plastic, that is spread over the spread over the soil's surface to prevent its natural exposure to sunlight.
- **Shelterbelts and windbreaks** are other common water conservation techniques prevalent in dryland farming. These are rows of trees and shrubs planted on the ridge or around the field to provide wind.
- Some engineering approaches, such as **contouring and compartmental bunding,** preserve moisture and prevent soil erosion in dryland areas.
- **Check dams and farm ponds** are common water harvesting structures in rainfed regions that help provide life-saving irrigation during long dry spells.

Way Forward

- In order to bring sustainability to the dryland agriculture system, the primary focus must be laid on **rainwater harvesting and soil health management**.
- **Integrated farming modules** for different production environments must be attempted on a priority basis for the risk-proofing of small and marginal farmers.
- **Cutting edge technologies such as remote sensing and GIS (Geographic Information System) applications** should be exploited for natural resource characterisation and land-use planning.
- **Small farm mechanisation** is another important area that needs early attention and addressal due to uneven monsoon patterns, drudgery, and an acute shortage of labour for agricultural operations.
- **Energy efficiency and management,** in conjunction with **precision agriculture,** need to be implemented in dryland areas for better productivity and profitability. In this regard, the **use of solar power and other renewable sources** needs to be promoted in dryland regions.

Conclusion

- Dryland farming is challenging with many constraints, but with the **understanding of local climate and soil conditions**, the **selection of suitable crops**, and the **use of appropriate technologies,** dryland farmers can produce bountiful crops even in the driest conditions.

7) Internet from a sachet: PM-WANI

(GS3: Achievements of Indians in Science & Technology; Indigenization of Technology and Developing New Technology)

Context

- This article highlights the significance and opportunities for the PM-WANI initiative.

Digital connectivity in India

- The Digital India programme has three main vision areas: **Digital connectivity, software and services on demand and digital empowerment of citizens.**
- Digital connectivity landscape has been transformed in the last seven years due to multiple factors like the **boom in mobile telephony** (a billion-plus mobile connections), **4G coverage**, a **significant reduction in tariffs** (from Rs 300 per GB to a mere Rs

7 per GB) and **increased smartphone penetration.**
- **Enabling digital connectivity policies:** Net Neutrality and the country's focus on building Digital Public Infrastructure (DPI) — particularly digital ID and UPI.

Challenges in digital connectivity and the need for PM-WANI

- **Huge surge in data demand:** India's per capita data consumption is 19.5 GB per month and the total data volume transported by mobile networks of India is more than the mobile networks of the US and China combined.
- **Demand supply mismatch:** The gap between demand and affordable supply remains wide, especially for poor households and rural India.
- **Underutilized infrastructure:** Although infrastructure laid out by major companies like RailTel and GAIL already exists, it is currently underutilized.
- **Reluctant to serve underserved areas:** Many large Internet Service Providers (ISPs) are hesitant to enter underserved areas.

About PM-WANI

- **Prime Minister's Wi-Fi Access Network Interface (PM-WANI)** aims at setting up Public Wi-Fi Networks by **Public Data Office Aggregators (PDOAs).**
- The objective is to provide public Wi-Fi service through **Public Data Offices (PDOs)** spread across the length and breadth of the country.
- The project will accelerate proliferation of Broadband Internet services through the Public Wi-Fi network in the country.
- There shall be no license fee for providing Broadband Internet through these public Wi-Fi networks.

Benefits of PM-WANI

- The proliferation of public Wi-Fi will not only **create employment** but also **enhance disposable incomes** in the hands of small and medium entrepreneurs and **boost the GDP of the country.**
- Availability and use of Broadband will **enhance quality of life, ease of doing business etc.**

Significance of PM-WANI

- It provides a **robust foundation** for delivering affordable internet access to a significant portion of society.
- The flexibility of this framework **empowers aggregators (PDOAs)** to capitalize on the internet distribution space, without the burden of additional licensing fees.
- PM-WANI presents a golden opportunity to **accelerate high-speed unlimited internet penetration,** bridging the digital divide and empowering communities. *(Currently, India's home broadband penetration stands at one of the lowest in the world, hovering at around 10 per cent)*
- PM-WANI can also **nurture the growth of local nano entrepreneurs** as they establish wi-fi hotspots and offer internet access to other users, enabling them to augment their monthly earnings while promoting internet usage through affordable sachet plans.
- By offering a **cost-effective and reliable solution,** it represents a beacon of hope for people in underserved areas.
- It also **benefits Internet Service Providers (ISPs) and Telcos** as they end up selling more

bandwidth by making their end customers retailers.

Conclusion

- More than 1.5 lakh wi-fi hotspots have been installed by PDOAs and more than a million people are getting unlimited Internet daily by paying just Rs 5 to 10. Like UPI transformed the financial space in India, PM WANI will **transform the internet connectivity space** and is poised to become a **unique digital public infrastructure.**

8) India-UAE framework and rupee-dirham transactions

(GS2: Bilateral, Regional and Global Groupings and Agreements involving India and/or affecting India's interests)

Context

- The Reserve Bank of India (RBI) and the Central Bank of the UAE signed two memoranda of understanding (MoUs).
    1. **Framework to promote the use of local currencies for cross-border transactions,**
    2. **Interlinking payment systems.**

Local currency settlement system

- **Aim:** The move towards permitting payments in the Indian rupee and the UAE dirham is aimed at promoting their use bilaterally, thus **reducing the dependence on a third country's currency** such as the U.S. dollar as an intermediary for settling transactions.
- **Coverage of transactions: All current account payments**, including those involving the two countries' exporters and importers, and certain **"permitted" capital account transactions** could be settled using either the rupee or the dirham.
- It would enable exporters and importers to send invoices and pay in their respective domestic currencies, which in turn would help the development of the INR-AED foreign exchange market.
- **The development of a rupee-dirham foreign exchange market** that would help in pricing the two currencies independent of their exchange rates with other currencies such as the dollar and the euro.

Significance of the framework

- The focus on denominating export contracts and invoices in the local currency helps **avert exchange-rate risks** (such as when a third currency is being used as a standard), which further **facilitates the scope to discover competitive pricing.**
- Improves the **ease of doing business and boosts trade.**
- The India-UAE local currency settlement system could also potentially **serve as a precursor for other bilateral currency accords** and could facilitate **internationalization of the rupee.**
- It would also help **promote investments and remittances** between the two countries.
- The arrangement would help **optimize transaction costs and settlement time for transactions,** including for remittances from Indians residing in the UAE.

Interlinking payment systems

- **India's Unified Payments Interface (UPI) is linked with its UAE-counterpart Instant Payment Platform (IPP).**
- This is alongside the **linking of card switches**, that is, RuPay switch and UAESWITCH. Card switches entail facilitating

communications and transactions between different payment service providers.
- The agreement would also explore linking of payment messaging systems of the two countries.

Significance

- The UPI-IPP linkage would enable users in either country to make **fast, convenient, safe, and cost-effective cross-border fund transfers.**
- Card switches linking facilitate **mutual acceptance of domestic cards** and processing of card transactions.

Other such initiatives

- **National Payments Corporation of India (NPCI)** finalized a collaboration with **Singapore's PayNow** for **facilitating cross-border real time money transfers.**
- NPCI had permitted **non-resident accounts with international numbers to be onboarded into the UPI ecosystem.** At the onset, it included users from 10 countries — Singapore, Australia, Canada, Oman, Qatar, the U.S., Saudi Arabia, the UAE, the U.K and Hong Kong.

India-UAE relations highlights

- **Trade**
  - India-UAE trade rose to $85 billion in 2022.
  - The UAE was India's **third largest trading partner and second-largest export destination** in FY2022-23.
  - India was the UAE's **second largest trading partner.**
  - The major items of export from India to the UAE include mineral fuels, mineral oils and products, bituminous substances, mineral waxes, followed by pearls, precious stones and metals, electrical machineries and equipment, among other things.
  - The major items imported by India are **petroleum crude and petroleum related products.**
- **Investment**
  - The UAE is the **fourth largest investor in India.**
  - Its cumulative FDI inflows between April 2000 and September 2022 stood at around $15.2 billion.
- **Migration and remittances**
  - Close to 3.5 million resident Indians living in the UAE (figure as of 2021).
  - The **World Bank in its 2023 Migration and Development Brief** noted that remittance inflows from GCC (Gulf Cooperation Council) countries, accounts for about **28% of the country's total remittance inflows.**

9) A push for GM mustard disregarding science, the law

(GS3: Awareness in the fields of IT, Space, Computers, Robotics, Nano-technology, Bio-technology and issues relating to Intellectual Property Rights)

Context

- A determined battle is going on between environmentalists in the Supreme Court of India and Delhi University's genetically modified (GM) herbicide-tolerant (HT) mustard.

About GM crops

- A **genetically modified organism** (GMO) or living modified organism (LMO), is any organism whose genetic material has been modified using laboratory-based transfer of genetic material from another organism.
- GM crops are derived from plants whose genes are artificially modified, generally by inserting genetic material from another organism, to give it new properties, such as improved nutritional value, increased yield, resistance to disease or drought, etc.
- For instance, **GM mustard** has been altered to **withstand the broad-spectrum plant-killer or herbicide glufosinate.**
- This makes it easier to develop hybrid mustard seeds for higher yields and farmers growing GM mustard can spray the herbicide to kill all plants except the mustard.
- In India, **Genetically modified organisms** and products are regulated by the Ministry of Environment, Forest and Climate Change (MoEFCC) under the provisions of the **Environment (Protection) Act, 1986.**
- The **Genetic Engineering Appraisal Committee** under MoEFCC is authorized to review, monitor and approve, import, export, transport, manufacture, use or sell GMO.
- GEAC's approval does not mean commercial cultivation, the **final decision** to allow commercial cultivation is taken by the **MoEFCC.**

GM crops in India, the debate

- Environmentalists, scientists, politicians, farmers, consumers and the higher judiciary have asked **probing questions about the safety, efficacy and even the very necessity of GM food.**
- Long-term research suggests that Bt cotton has provided only fleeting benefits to farmers, while enormously **increasing their costs of cultivation and risk**.
- Enhanced sucking **pest damage** in Bt cotton;
- **Emergence of pest resistance;**
- **Environmental and health implications** in terms of toxicity and allergenicity that can cause hematotoxin reactions in the human body and
- **Farmers' exposure to a greater risk of monopoly** in the seed business.

About GM-Mustard

- Dhara Mustard Hybrid-11 is an **indigenously developed transgenic mustard** which is a genetically modified variant of **herbicide tolerant (HT) Mustard.**
- It contains genes such as 'barnase' and 'barstar' isolated from soil bacterium, Bacillus amyloliquefaciens.
- It has been developed by the **Centre for Genetic Manipulation of Crop Plants (CGMCP) at Delhi University.**

Various committee reports on GM crops

- The **Standing Committee on Agriculture in 2012** and the **Standing Committee on Science and Technology, Environment and Forests in 2017** unanimously highlighted **major weaknesses in the regulatory system**, and called for utmost caution before releasing GM food.
- The Committee on Science and Technology, Environment and Forests made a specific reference to GM mustard.

    - Asked the government to conduct a thorough, independent, and transparent assessment of long-term **biosafety, environmental risk and socio-economic impacts.**
    - Pointed **grave deficiencies in the safety assessment** of GM crops and warned of **serious harm** to the environment, rural livelihoods and sustainable agriculture if they were released.
- Asked for comprehensively **strengthening regulation** before allowing GM food.

Issues surrounding GM Mustard release

- The government is pushing ahead with GM mustard with disregard for both science and the law. For instance,
    - It has **not placed the full biosafety dossier of GM mustard in the public domain,** despite the provisions of the Right To Information Act and a declaration to this effect by the Genetic Engineering Appraisal Committee of the Environment Ministry.
    - It is **not adequately responding to criticisms** from agricultural scientists that already available non-GM mustard hybrids have better yields than GM mustard.
- The government is **not seriously engaging with constitutional issues involving public health, environmental protection and agricultural livelihoods.**
- If the Supreme Court allows GM mustard to go through, it will likely pave the way for the release of other HT crops such as cotton, rice, and maize which have many adverse effects.

Conclusion

- Given the overwhelming political and technical consensus, the government needs to approach the issue of HT crops transparently and robustly with an emphasis on precaution.

10) Women's reproductive autonomy as the new catchword

(GS1: Role of Women and Women's Organization, Population and Associated Issues, Poverty and Developmental issues, Urbanization, their problems and their remedies)

Context

- The article highlights that the template for **women-led development**, be it in science, technology, agriculture, education or health care, **must also include reproductive autonomy at its core.**

What is reproductive autonomy?

- Reproductive autonomy refers to the **right of a woman or girl to make autonomous decisions about her own body and reproductive functions** which is at the core of her basic rights to equality, privacy, and bodily integrity.

Scenario in India

- Instead of ensuring reproductive autonomy for each woman, India is obsessed with **total fertility rates.**
- Instead of ensuring that family planning services reach all those who want it, India is **obsessed with what the ideal population size** of a family, a community, a country and even the world ought to be.

When can population stability be attained?

- **Population stability** comes when
    - Reproductive and sexual health decisions are **free of discrimination, coercion and violence.**
    - Reproductive and sexual health services are **affordable, acceptable, accessible and of high quality.**
    - Women and couples are **supported** to have the number of children they want, when they want them.

Progress made so far

Commendable family planning initiatives

- India's family planning initiatives provide an **increasingly comprehensive package of reproductive health services** to every potential beneficiary with a focus on the provision of modern short and long-acting reversible contraceptives, permanent methods, information, counseling, and services, including emergency contraception.
- India's commitment towards the Family Planning 2030 partnership includes **expanding its contraceptive basket.**

Significance

- The inclusion of new contraceptive options **advances women's rights and autonomy,** leading to a spike in modern contraceptive prevalence.
- Access to timely, quality and affordable family planning services is crucial because **unspaced pregnancies may have a detrimental influence** on the new-born's health as well as major effects on maternal mortality, morbidity, and health-care expenditure.

Progress in health, population and development programmes

- **Life expectancy:** Life expectancy at birth has significantly increased.
- **Maternal health:** The current rate of maternal mortality is **97** (per 100,000 live births in a year), down from 254 in 2004.
- **Gender empowerment:** Reduction in child marriages, dramatic decrease in Teen pregnancies, And access to vital services, including health, education, and nutrition resulted in women empowerment..

Why is reproductive autonomy emphasized?

- **No physical autonomy:** Despite the progress, many women continue to lack physical autonomy.
- **Limited decision making power:** According to the most recent National Family Health Survey (NFHS-5), **just 10% of women in India are independently able to make decisions about their own health.**
- 11% of women believe that marital violence is acceptable if a woman refuses to have sex with her husband.
- **Unplanned pregnancies:** Nearly half of all pregnancies in India are unplanned, as they are globally.

Way Forward

- **Advancing gender equality:**
    - Achieving gender parity in the workforce is the most effective way to improve output and income growth. The focus on gender equality helps shift the focus away from the notion of **'population stabilization' to 'population dynamics'**

based on reproductive choices people make.
    - Countries experiencing rapid population growth should empower their women through **education and family planning** that can bring enormous benefits by way of **human capital and inclusive economic development.**
    - Gender equality can be ensured by **making investments in a woman's life** at every stage, from childbirth to adolescence to maturity.
- **Legislation empowering women**
    - Engaging with women, girls and other marginalized people and formulating legislation and policies that empower them to assert their rights and take life changing personal decisions is the need of the hour.
- India has to **reaffirm its commitment to putting individual rights,** particularly women's rights and well-being, at the **center of the population and development discourse.**

Conclusion

- India has a significant opportunity to advance gender equality and grow its economy. In fact, raising the **women's labor force participation by 10 percentage points might account for more than 70% of the potential GDP growth opportunity** ($770 billion in additional GDP by 2025).
- Hence gender-just approaches and solutions are the fundamental building blocks of a more prosperous India, and indeed the world.

11) AI's disruptive economic impact

(GS3: Awareness in the fields of IT, Space, Computers, Robotics, Nano-technology, Bio-technology and issues relating to Intellectual Property Rights)

Context

- This article highlights the positives of AI adoption and its adverse economic impact as well.

About Artificial Intelligence (AI):

- It refers to the **simulation of human intelligence in machines** that are programmed to think like humans and mimic their actions.
- It is based on the principle that human intelligence can be defined in a way that a machine can easily mimic it and execute tasks, from the most simple to those that are even more complex.
- The goals of artificial intelligence include **computer-enhanced learning, reasoning, and perception.**
- AI is being used today across different industries from finance to healthcare.

Positive impacts from AI adoption

- **Increase productivity**: Several studies indicate a positive correlation between AI adoption and increased productivity.
    - A study by MIT demonstrated how **AI tools enhanced worker productivity by 14% and improved consumer satisfaction.**
    - A LinkedIn survey found that **70% of employees in top US companies perceived AI as beneficial to their productivity.**

- **Employee retention:** It also led to better treatment of customer service agents and increased employee retention.
- **Economic growth:** A study by PricewaterhouseCoopers (PwC) predicted an **increase in global GDP by 14%** or $15.7 trillion by 2030 due to ongoing technological advancements in AI.
- **Positive macroeconomic effects:** Generative AI has the potential to create human-like output and ability to break down communication barriers between humans and machines could have large positive macroeconomic effects.

Negative Impact of AI adoption

- Despite its benefits, AI also poses risks, such as **labor replacement.**
  - AI can automate repetitive tasks and with generative AI, even creative tasks can be done efficiently and fast.
  - Recent research indicates that robot adoption negatively **affects employment and wages,** particularly for blue-collar workers and those with lower education levels.
- Automation is associated with **wage inequality,** particularly in industries undergoing rapid automation.
- AI may **intensify competition and deepen the technological divide** among firms.

Counterargument

- 85% of employment growth over the last 80 years is explained by the technology-driven creation of new positions hinting at the possibility of AI creating more jobs than on how much it displaces.
- It is suggested that generative AI may not replace employees, but workers using generative AI may substitute those not skilled enough.

What are the Prospects for India in the AI era?

- India, given its vast population, needs to consider the possible negative impact of AI on employment.
- Regulation of AI could deter investments and opportunities, but India can potentially **leverage its demographic dividend** by focusing on AI education and training, especially as online education gains traction after the COVID-19 pandemic.

12) A challenge to corporates from RBI

(GS3: Inclusive Growth and issues arising from it)

Context

- This article highlights the need for geographic diversification of corporate social responsibility (CSR) spending and the way forward for its implementation.

What is Corporate Social Responsibility?

- CSR is a **management concept** through which a company achieves a **balance of economic, environmental and social imperatives.**
- It is a **business philosophy** that dictates that companies around the globe should deviate from the narrow path of chasing only financial gains and wealth buildup and embark on a **journey of sustainable development.**
- It includes community welfare, ethical corporate conduct, climate action, defending the socio-economic rights of marginalized

sections of society, among other aspects.

- India is the **first country** in the world to make CSR mandatory, following an amendment to **The Company Act, 2013** in 2014.
- Any company that has a net worth of at least **Rs 500 crore, a turnover of Rs 1,000 crore or a net profit of Rs 5 crore** is obliged to **spend 2% of its average profits** over the last three years on CSR.
- Businesses can invest their profits in areas such as education, poverty, gender equality, and hunger as part of their CSR compliance, as regulated by the law.

RBI's Suggestion

- The RBI's latest **report on currency and finance** recommends policy options to **mitigate climate risks and achieve India's goal of net zero** by 2070.
    - One suggestion is **mandatory geographic diversification of corporate social responsibility (CSR) spending.**
- While this is a sound recommendation, its implementation will require a **shift in the ecosystem** for a more equitable distribution of CSR funding.

Current scenario of CSR spending

- **Concentrated spending in industrialized states:**
    - Section 135 of the Companies Act states that companies **give preference to areas near where they operate in deploying CSR funds.** This has resulted in more funding for social issues but also concentrated spending in the most industrialized states.
    - As of 2020-21, **10 states received 80 per cent of all CSR funding.**

Does the government mandate CSR spending in local areas?

- In 2021, the **Ministry of Corporate Affairs** had clarified that **preference for local areas is not mandatory,** and the spirit of the legislation is to align CSR with national priorities.
- However, the concentration of funding in a few states suggests that companies still prefer to direct their CSR funding locally.

Why do companies prefer to direct CSR funding locally?

- This preference arises from a **desire to help communities that live and work near their business operations,** and within regions where they are familiar with the challenges.
- Local projects allow funders to **leverage their knowledge of the region,** utilize existing relationships and networks, and exert greater influence over outcomes through staff visits and monitoring.
- This in return allows corporates to **obtain a "social license to operate"** through the greater goodwill and influence they derive from doing good with and for local communities.

Challenges in diversifying CSR spending

- Accessing **remote locations, identifying the needs of local communities**, and **trusted implementation partners** are challenges.
- Grassroots non-profit organizations often lack the means to showcase their impact on national platforms, resulting in

an **information gap with funders.**

How to diversify CSR spending or to overcome local preference?

- **Ecosystem change and regulatory shift:**
  - Achieving an equitable distribution of CSR funds will require both a regulatory shift and changes at an ecosystem level, where the level of trust between companies and between the private, public and social sectors is high.
  - This will enable companies to find trusted for-profit, social enterprises and non-profit partners.
- **Partnership based approach:**
  - Successful pan-India projects will benefit from **collaborations between larger companies and smaller social enterprises** that are beginning their social impact journeys.
  - Collaborations can involve **pooling funding, talent, resources, and innovations** to address complex, intersectional challenges.
  - For instance, **pan-India non-profits with big budgets heavily rely on grassroots organizations for project implementation.**
- **Align with local government**
  - CSR programmes can **align with local government through initiatives like the Aspirational District Programme** and the Aspirational Block Programme.
  - The ADP emphasizes convergence with national and state schemes, fostering collaboration among local, state and national governance entities, and with external agencies for implementation.
  - By participating in such programmes companies **develop meaningful relationships with government departments, influence local governance practices**, and streamline district administration work while undertaking impactful projects in vulnerable districts.
  - **Independent partnerships with local government** and non-profits can also be a modus operandi for CSR programmes.
- **Take technology's help**
  - Companies contemplating remote projects where staff cannot often make field visits can rely on **technology-enabled monitoring and evaluation models like** tools to transfer and share real-time data, the creation of dashboards, sophisticated accounting software, virtual field visits, and video conferencing.

Conclusion

- Corporations that wish to be true national partners in realizing environmental and social goals will have to **establish trusted partnerships with a more**

diverse set of nonprofits and local governments.

13) The Governor's move is dangerous, unconstitutional

(GS2: Functions and Responsibilities of the Union and the States, Issues and Challenges Pertaining to the Federal Structure, Devolution of Powers and Finances up to Local Levels and Challenges Therein)

Context

- The Governor of Tamil Nadu has recently dismissed a Minister in the Council of Ministers of Tamil Nadu.

Impact of such a move

- **Sets a dangerous precedent:** The act of dismissing a Minister of a government which enjoys an absolute majority in the State legislature, without the recommendation of the Chief Minister of the State, is going to set a **dangerous precedent and has the potential to destabilize State governments** putting the federal system in jeopardy.
- **Collapse of constitutional system:** If Governors are allowed to exercise the power of dismissal of individual Ministers without the knowledge and recommendation of the Chief Minister, the whole **constitutional system will collapse.**

Does the Governor have the power to dismiss an individual Minister without the advice of the Chief Minister?

- The Governor during the colonial rule had **absolute discretion to choose a Minister and dismiss him** according to the **Government of India Act,1935.**

Article 164

- Under Article 164 of the Constitution, the **Chief Minister is appointed by the Governor** without any advice from anyone. But he **appoints the individual Ministers only on the advice of the Chief Minister.**
- The Article implies that the **Governor cannot appoint an individual Minister according to his discretion.** So, logically, the Governor **can dismiss a Minister only on the advice of the Chief Minister.**
- The **Chief Minister alone has the discretion to choose his Ministers and also decides who will not remain as a Minister in his Council**. This is a political decision of the Chief Minister, who is ultimately answerable to the people.
- The Constitution has not transferred the discretion of the Chief Minister to the Governor.

Governor - A mere constitutional head

- Independent India has a constitutional system under which a Governor is a mere constitutional head and he **can act only on the aid and advice of the Council of Ministers headed by the Chief Minister.**
- The **pleasure doctrine** has been brought into the Constitution of India from the Government of India Act, 1935 refers to the formal act of issuing the order of dismissal which is to be done by the Governor, but only on the advice of the Chief Minister.

Judicial clarification

- The position of the Governor in India's Constitutional setup has been clarified by the Supreme Court of India in a number of cases.
    - **Shamsher Singh and Anr vs State Of Punjab (1974)**: A seven- judge Constitution Bench declared the Law on the

Powers of a Governor that he can exercise his formal constitutional powers only upon and in accordance with the advice of their Ministers except in a few exceptional situations.

- **Nabam Rebia vs Deputy Speaker:** A Constitution Bench of five judges reaffirmed the law laid down in Shamsher Singh and further held that the discretionary powers of the Governor are limited to the postulates of Article 163(1).
  - *Article 163(1) states that there shall be a council of Ministers with the chief Minister at the head to aid and advise the Governor in the exercise of his functions except few situations where he can act on his discretion as prescribed under the constitution.*

14) A new chapter in India-Africa ties can be written

(GS2: Bilateral, Regional and Global Groupings and Agreements involving India and/or affecting India's interests)

Context

- The 20-member Africa Expert Group (AEG), established by the Vivekananda International Foundation, recently presented a Report entitled 'India-Africa Partnership: Achievements, Challenges and Roadmap 2023'.

Highlights of the report - Africa in transition

- The report examines the transitions unfolding in Africa: **demographic, economic, political and social.**
- It is slowly **heading toward regional integration** and is **devoted to democracy, peace and progress,** even as Ethiopia, Sudan, the Central African Republic and other countries continue to battle with the challenges posed by insurgency, ethnic violence and terrorism.
- There is the **sharpening competition among external partners** such as China, Russia, the United States, the European Union, Japan, Türkiye and the United Arab Emirates for strengthening their relations with parts of Africa to ensure market access, gain energy and mineral security, and increase political and economic influence.
- **China** being 'the infrastructure developer', 'the resource provider', and the financier for Africa and with consistent and robust policy since 2000 has become virtually **Africa's biggest economic partner.**

Report about India-Africa Ties

- The report notes that India has a substantive partnership with Africa and a rich fund of goodwill, but it is **essential for India to review its Africa policy periodically**, stay resilient by making the required changes, and effectively implement it.

Gist of recommendations

- The central part is **'Roadmap 2030',** a set of nearly 60 policy recommendations that are designed to deepen and diversify the India-Africa partnership and it covers four areas.
- **Political and diplomatic cooperation:**
  - **Restore periodic leaders' summits** through the

medium of the India-Africa Forum Summit as the last summit was in 2015.
    - A new **annual strategic dialogue** between the chairperson of the African Union (AU) and India's External Affairs Minister should be launched in 2023.
    - Forge **consensus among G-20 members on the AU's entry** into the G-20 as a full member.
    - The Ministry of External Affairs (MEA) should have a **secretary exclusively in charge of African affairs** to further enhance the implementation and impact of the Africa policy.
- **Defense and security cooperation:**
    - The government needs to **increase the number of defense attachés deployed** in Africa.
    - Expand **dialogue on defense issues, widen the footprint of maritime collaboration,** and **expand lines of credit to facilitate defense exports.**
    - Increase the number of defense training slots and enhance cooperation in counter-terrorism, cyber security and emerging technologies.
- **Economic and development cooperation:**
    - Access to finance through the creation of an **Africa Growth Fund (AGF).**
    - A special package of measures to **improve project exports** and build up cooperation in the shipping domain.
    - A special focus on **promoting trilateral cooperation** and deepening science and technology cooperation could pay rich dividends.
- **Socio-cultural cooperation:**
    - It should be increased through **greater interaction** between universities, think tanks, civil society and media organizations in India and select African countries.
    - Setting up a **National Centre for African Studies**.
    - Indian Technical and Economic Cooperation (ITEC) and Indian Council for Cultural Relations (ICCR) scholarships awarded to Africans should be named after famous African figures.
    - **Visa measures for African students** who come to India for higher education should be liberalized.

Special mechanism for implementation

- The roadmap can be best implemented through **close collaboration between the MEA and the National Security Council Secretariat** through a team of officials working under the joint leadership of the Secretary, Africa in the MEA, and a designated Deputy National Security Adviser.

Conclusion

- India's rise as a global player is inevitably **linked to the kind of partnership it enjoys with Africa.** In the past 15 years and especially since 2014, India-Africa

relations have developed steadily but more progress is achievable and this roadmap helps achieve the desired progress.

15) A case of unchecked power to restrict online free speech

(GS2: Important Aspects of Governance, Transparency and Accountability, E-governance- applications, models, successes, limitations, and potential; Citizens Charters, Transparency & Accountability and institutional and other measures.)

Context

- The Karnataka High Court has **recently dismissed Twitter's challenge to the issuance of blocking orders by the Ministry of Electronics and Information Technology (MeitY)** in connection with the taking down of Twitter accounts and specific tweets.
- The High Court admonished Twitter for not complying with the orders and imposed an astounding cost of ₹50 lakh on the United States-based social media company.

Impact of the judgement

- The judgment **undermines the right to free speech and expression.**
- It also **paves the way for the state to exercise unchecked power** while taking down content without following established procedure.
- It **exhibits a new trend to hinder digital rights** and the exercise of free speech on the grounds of the dissemination of false speech.

Procedural safeguards

- **Section 69A of the Information Technology Act, 2000**
    - It empowers the state to **issue blocking** orders **in cases of emergency** on the grounds such as "sovereignty and integrity of India, defense of India, security of the State, friendly relations with foreign States, public order or for preventing incitement to the commission of any cognizable offense relating to the above".
- The **Information Technology** (Procedure and Safeguards for Blocking for Access of Information by Public) **Rules, 2009** lays down the procedure for any blocking order issued under Section 69A.
- **Shreya Singhal vs Union of India:** The Supreme Court of India upheld the validity of Section 69A and the Blocking Rules after **observing that sufficient procedural safeguards** were embedded, such as provision of **recording a reasoned order, and providing notice to the intermediary and the originator** whose content was sought to be blocked.

Issues with the judgement

Contrary to judicial precedent:

- The High Court has acknowledged that blocking orders affect the rights of users however it held that the state could exercise its discretion to hear users and that **issuance of notice was not mandatory** which is contrary to Shreya Singhal Judgement.

Against freedom of speech

- Section 69A **only permits the blocking of specific tweets.** Wholesale blocking of Twitter accounts amounts to prior restraint on the freedom of speech and expression, i.e., limiting future speech and expression.

    - **Brij Bhushan And Another vs The State Of Delhi:** The Supreme Court held that **pre-censorship on freedom of speech is unconstitutional.**
- Reasonable restrictions on the fundamental right to freedom of speech can only be instituted on the basis of eight specifically enumerated grounds under **Article 19(2) of the Constitution.**
- The Supreme Court had clarified in Shreya Singhal that **blocking under Section 69A and the Blocking Rules must conform to those grounds.**
- **Misinformation and fake news** are **not grounds** under which free speech can be restricted under Article 19(2) and Section 69A.

Unchecked power of state

- The court opined that in the **absence of procedural safeguards,** the restrictions that are to be imposed on free speech can be implemented without any oversight or **without giving any recourse** to the affected entity to challenge them.
- This translates into unfettered power being exercised by the state in taking down content.

Erodes the principle of natural justice

- The Karnataka High Court's judgment erodes the principles of natural justice which dictate for the affected party to be allowed to present their case to the best of their abilities.

16) India should refuse America's 'NATO Plus' bait

(GS2: Bilateral, Regional and Global Groupings and Agreements involving India and/or affecting India's interests)

Context

- The U.S. House Select Committee on the Strategic Competition between the United States and the Chinese Communist Party (CCP), in May 2023, recommended **strengthening the 'NATO-Plus' framework by including India in the grouping.**
- **India's External Affairs Minister had rejected** this idea by saying that **"NATO template does not apply to India".**
- This article analyzes the opportunities and challenges for India on joining NATO plus.

About NATO

- Formed in **1949** with the signing of the **Washington Treaty**, NATO is a **security alliance of 30 countries** from North America and Europe.
- Established in the Cold War as a bulwark against Soviet aggression, NATO's fundamental goal is to **safeguard the freedom and security** of all its members by political and military means.
- After the dissolution of the Soviet Union and the end of the Cold War, many thought that NATO would lose its relevance.
- On the contrary, NATO has not only survived but also expanded, with **Finland** joining as its 31st member (April 2023), and **Sweden** waiting in the wings.

What is NATO plus?

- "NATO plus" refers to a **security arrangement of NATO and the five treaty allies of the U.S. — Australia, New Zealand, Japan, Israel, and South Korea** as members to enhance "**global defense cooperation"** and win the "**strategic competition with the Chinese Communist Party".**
- The term 'NATO Plus' is **not an officially recognised or established concept** within

NATO itself, but has been used in discussions and debates regarding the potential expansion of the alliance.
- The inclusion of these countries as members would require a complex process of negotiation and assessment of their compatibility with NATO's principles, obligations, and defense commitments.
- While NATO's earlier target was the Soviet Union and now Russia, the **focus of NATO Plus is clearly on containing China.**

Why should India Join NATO plus framework?

- In light of increasing regional security challenges, India joining the NATO Plus framework could provide it with a **security umbrella, with protection and deterrence against potential threats.**
- India could also gain **access to advanced military technologies,** intelligence-sharing platforms, and interoperability with other member-states.
- This could potentially **strengthen India's defense capabilities and modernisation efforts.**

Challenges for India on joining NATO plus framework

- As India getting into any NATO framework will **annoy Russia and China**, balancing these relationships and managing potential geopolitical consequences would be a significant challenge for India.
- Having a military framework will **limit India's freedom of action** and **prevent it from pursuing an independent policy towards China.** For instance,
    - When India has its own bilateral issues with China and a strategy for the Indo-Pacific, hopping into the Taiwan strategy of the U.S. under NATO Plus will complicate India's security, with the possibility of Chinese justification for further military build-up along the India-China border and frequent intrusion.
- Joining a NATO framework would require India to align its defense and security policies with the objectives and strategies of the alliance, thereby potentially **undermining India's strategic autonomy.**
- While the non-aligned policy will get a quick death, it could **strain relationships with countries, especially neighbors and regional organizations** that value India's independent stance, and could also limit its flexibility in engaging with other regional powers.

Conclusion

- India's priorities lie in **addressing its own regional dynamics** that includes a unique set of security challenges such as border disputes, terrorism, and regional conflicts.
- While NATO has certain competencies to deal with such issues, its larger geopolitical agenda may divert resources and attention away from these pressing issues and, therefore, will **not be of much help to India.**
- For the time being, **India's posturing through the Quad** (India, Japan, Australia and the U.S.; the Asian NATO as per China) looks **more promising than the NATO Plus bait.**

17) Demographic transition and change in women's lives

(GS1: Role of Women and Women's Organization, Population and Associated Issues, Poverty and Developmental issues, Urbanization, their problems and their remedies)

Context

- This article highlights how India's demographic journey has changed the lives of its citizens, particularly its women.

India's demographic transition

- **Population growth:** India's population grew from about 340 million at Independence to 1.4 billion fuelled by **receding starvation, improved public health, and medical miracles** brought to India.
- **Improved life expectancy:** Life expectancy for men has turned **69 years** now from 56 years in 1941.
- **Total Fertility Rate** fell from 5.7 in 1950 to **2.1** in 2019.

Changes for Indian women

- **Impact of preferring fewer children:**
  - As families began having fewer children, ensuring at least one son became more difficult.
  - **Why is son preferred?**
    - **Social norms and patrilocal kinship patterns** combined with **lack of financial security** reinforce a preference for sons.
    - The **India Human Development Survey (IHDS)** found that 85% of women respondents expected to rely on their sons for **old age support.**
    - Parents who want to ensure that they have at least one son among their one or two child families, resort to **sex-selective abortion**, and, in some cases, the **neglect of sick daughters.**
  - Consequently, the **number of girls per 100 boys**, aged under five dropped from 96 to **91** between 1950 and 2019.
- **Impact of fertility decline**
  - With a fertility decline, active mothering occupies a smaller proportion of women's lives, creating **space for education and employment.**
  - According to NFHS, the **number of years women spend caring for children under five** declined from 14 years in 1992-93 to **eight** in 2018-20.
- While **women's educational attainment increased**, with over 70% of girls enrolling in secondary education, **early marriage and childbearing remain the predominant forces** defining women's lives.
- Early motherhood explains why **lower fertility does not translate into higher labor force participation for women.**
- **Demographic shifts** also affect women's lives at older ages.
  - The 2011 Census shows that while **only 18% of men above age 65 are widowed, about 55% of the women are widowed.**

- For widowed women, the **lack of access to savings and property results in dependence on children**, mainly sons, bringing the **vicious cycle of son preference to full circle.**

Way Forward

- **Enhancing women's access to employment and assets** will reduce their reliance on sons and could break the vicious cycle of gendered disadvantage, stretching from childhood to old age.
- Any efforts at improving women's labor force participation must be accompanied by **access to safe and affordable childcare** as early marriage and childbearing remain central to Indian women's lives.
  - For instance, a **World Bank** evaluation based on a randomized controlled trial in Madhya Pradesh found that the **expansion of Anganwadis to include a crèche led to an increase in the work participation of mothers**.
- Making staffing crèche an acceptable form of work under the National Rural Employment Guarantee Scheme (NREGS) could be a practical strategy for enhancing childcare access.

18) Millets: Future of Sustainable Agriculture

(GS3: Major Crops - Cropping Patterns in various parts of the country, Different Types of Irrigation and Irrigation Systems)

Context

- India has been the **largest producer of millets globally. Three varieties** of millet, viz., **pearl millet (bajra), sorghum (jowar), and finger millet (ragi)**, constitute the **largest share** of India's total millet production.
- **Andhra Pradesh, Gujarat, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan, Tamil Nadu, Uttar Pradesh, and Uttarakhand** are the major millet-producing States in India. These ten states accounted for around **98 per cent of the production of millets** in the country in 2020-21.
- According to the **Food and Agriculture Organization (FAO) of the United Nations,** out of the **total area in the world under millet production and the total millet production** in the world, **India constitutes 19 per cent and 20 per cent,** respectively.

Green Revolutions & its Impacts

- The **Green Revolution** in India brought modern technology to Indian agriculture. The movement advocated the use of **high-yielding varieties of seeds** with **improved chemical-fertigation, mechanisation and agronomic practices** aimed at achieving self-sufficiency for the country's foodgrain production.
- The **focus** of the Green Revolution on **high yielding variety seeds of rice and wheat** changed India's status from a **food-deficient country to one of the foodgrain-surplus nations of the world.**
- Though the Green Revolution achieved its prime objective of making India **self- sufficient in foodgrains,** the approach somehow **could not accord concurrent importance to the production and propagation of millets.** Consequently, the **proportion of millets in our food basket diminished over the years.**

Significance of Millets

- Millets consist of various **small-seeded plants,** including pearl, sorghum, foxtail, finger, barnyard, etc., and are also interchangeably referred to as **nutri-cereals, super-foods, and Shree Anna**.
- **Nutritional enrichment, an 'environment friendly' cropping pattern, and remunerative considerations** comprise the trinity that forms the foundation of the recent drive to promote millets.
- Most millets have **high contents of proteins, fibres, vitamins, and essential minerals** and are an attractive **gluten-free substitute for cereals.** Some nutritional benefits of millets include **low absorption of fats and low glycemic indices.**
- These cereals have the required capacity to **reduce overdependence on more commonly raised water-guzzling crops** like rice, **boosting diverse diets,** and **ensuring food security for all.**
- Millets can be grown in **varied landforms and climatic conditions,** thereby **ensuring environmental adaptability.** They are **resistant to drought and most pests.**
- **Irrigation requirements** for some millets are **relatively lower** than those for paddy and wheat. Moreover, millets as compared to rice and wheat require a **shorter duration between sowing and harvesting,** thereby making the former more **ideal for adopting crop rotation.**
- Thus, production of millets can contribute a lot to the global efforts of addressing the challenges related to **mitigation and adaptation to climate change.**

Awareness to Boost Millet Consumption

- Despite there being evidence of the cultivation of millets as far back as **ancient civilisations of Harappa and Mesopotamia,** the consumption of millets has not really taken off.
- Consequently, to promote the consumption of millets, the Government of India has taken a number of diverse steps, which range from **augmenting productivity to ensuring nutritional enhancement**; from **encouraging value addition entrepreneurship development**, and from **bolstering the value chain to crop diversification.**
- Further, the **Union Budget 2023-24** had announced that the **Indian Institute of Millet Research in Hyderabad** will be supported as the **Centre of Excellence** for sharing best practices, research, and technologies at the international level.
- A necessary pre-requisite for any of these steps to succeed is the creation of **awareness about various aspects of millets.** Awareness generation among **farmers** becomes as crucial as awareness generation among **consumers**.
- While for consumers, **nutritional aspects, prices, and accessibility**, including **availability** on Government e-Marketplace and e-commerce platforms, would be important determinants of demand, for other stakeholders, **cropping pattern, access to technology and markets, availability of research and development, linkages with Farmer Producer Organisations, storage, constituents of the supply chain**, etc., are of significance.

Conclusion

- The need of the hour is to ensure the **emergence of an appropriate supply-chain and value-chain from pre-production to processing and marketing.**
- A challenge that needs to be addressed swiftly is the **compliance of exports with sanitary and phytosanitary measures,** which will lead to a global demand-pull for millets produced in India.
- A renewed emphasis on millets has the potential of generating **positive externalities** in the form of better nutrition for citizens, environmental sustainability, retention of soil fertility, and better incomes for the cultivators.

19) Third pole melting away

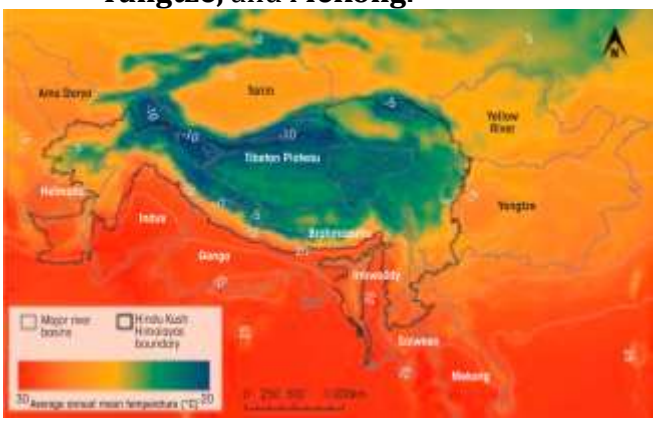
(GS3: Conservation, Environmental Pollution and Degradation, Environmental Impact Assessment)

Context

- **Himalayan glaciers** have been disappearing **65% faster** since 2010 which could drastically reduce water flows in the **Indus, Ganga** and **Brahmaputra.**

Third pole

- The **Third Pole**, also known as the **Hindu Kush-Karakoram-Himalayan system** refers to the region of the world with the **largest concentration of ice outside the polar regions.**
- It encompasses the **Himalayan mountain range** and the **Tibetan Plateau**, which spans several countries including **China, India, Nepal, Bhutan**, and parts of **Pakistan.**
- The **Third Pole** holds vast amounts of **glaciers, snow,** and **ice** that are critical sources of **freshwater** for numerous **major rivers** such as the **Indus, Ganges, Brahmaputra, Yangtze,** and **Mekong.**



Findings

- Latest assessment from the **International Centre for Integrated Mountain Development (ICIMOD)** pointed that the regions of the Hindu Kush Himalayas are seeing an **increase in mean temperature**, with an average observed trend of **0.28°C per decade** from 1951 to 2020.
- This is likely to impact the **cryosphere**, and in particular **glacial melt**, which is a major contributor of water for Himalayan rivers like the Ganga, the Brahmaputra and the Indus.
- About **60%** of the Himalayan region features **seasonal cryosphere** (snow, glaciers, permafrost and glacial lakes), a major source of water and ecosystem services, which is vulnerable.

Cryosphere

- The **cryosphere** refers to the portion of the Earth's surface where **water exists** in **solid form**, including **ice, snow, glaciers, icebergs, permafrost,** and **frozen ground.**
- As global temperatures rise due to climate change, the cryosphere is experiencing significant changes, including:
    - **Glacial Retreat**: Glacial retreat refers to the process

by which glaciers shrink in size over time due to the melting of ice and snow. Many glaciers around the world are retreating at an accelerated pace, leading to decreased freshwater availability in certain regions.
    - **Permafrost Thaw**: As permafrost thaws, it can release stored carbon dioxide and methane, potent greenhouse gases that contribute to further warming.
    - **Rising Sea Levels**: The melting of ice sheets and glaciers contributes to rising sea levels, which poses risks to coastal communities and ecosystems.

Consequences of Glacial melting.

- **Peak water** in most basins will be reached around mid century, and water availability will decline by 2100.
    - Peak water refers to the point in time when the **availability of freshwater resources** in a particular region **reaches its maximum sustainable limit.**
- The Hindu Kush Himalayas will also see a **decline in snowfall of 30 to 50 per cent** in the **Indus basin**; **50 to 60 percent** in the **Ganga basin**; and **50 to 70 percent** in the **Brahmaputra basin** between **2070 and 2100**, as against the average from 1971 to 2000.
- There will be an increase in disasters like landslides, avalanches and **Glacial lake outburst floods (GLOFs) .**
    - **Glacial Lake Outburst Flood** refers to a sudden and often catastrophic release of water from a **glacial lake**, resulting in a rapid and **large-scale flood downstream.**
    - GLOFs are triggered when natural barriers that hold back water in glacial lakes, such as **moraines** or **ice dams**, weaken or collapse.
    - This sudden release of water can cause a surge of **water, debris**, and **sediment downstream**, posing significant risks to **communities, infrastructure**,etc
- The report highlights that **ecosystem degradation, species decline** and **extinction** as major factors to result in biodiversity loss.

ICMOD

- It is an **intergovernmental organization** dedicated to addressing the challenges and opportunities faced by the mountainous regions of the **Hindu Kush Himalayas** and adjoining mountain ranges.
- **ICIMOD** was established in **1983** and is headquartered in **Kathmandu, Nepal.**
- The organization's main focus areas include **sustainable development, climate change adaptation, natural resource management, disaster risk reduction.**
- It aims at fostering **regional cooperation** among the countries that share the Hindu Kush Himalayan region. These countries include **Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal,** and **Pakistan.**

Conclusion

- The focus must be on lowering **carbon emissions**. The challenges

of managing the **cryosphere** will only increase if the world warms at a faster rate.
- Improvements in **research** and observation should be used to anticipate disasters such as GLOFs and avalanches, to minimise their impacts.

20) Ground water extraction

(GS3: Conservation, Environmental Pollution and Degradation, Environmental Impact Assessment)

Context

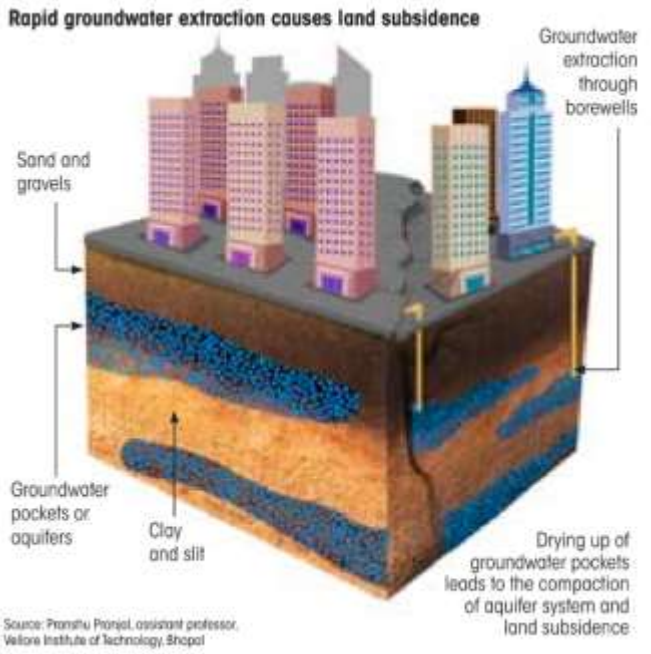
- **Excessive groundwater extraction** is triggering **land subsidence** in the **Indo – Gangetic plain.**

Land subsidence

- **Land subsidence** refers to the gradual **sinking** or **settling** of the **Earth's surface,** often caused by the **removal of groundwater,** the **extraction of minerals**, **oil** and **gas**, or **natural geological processes.**
- It can also occur as a result of **human activities**, such as **construction, mining,** and the **drainage of wetlands.**
- Land subsidence can have various negative impacts on **infrastructure, ecosystems**, and **communities.**

Ground water extraction and Land subsidence

- Groundwater generally resides in **pores** or **aquifers** within the soil.
- When large amounts of groundwater are extracted year after year, a void is created in the pores.
- This causes collapse or **compaction of the soi**l, leading to **land subsidence.**
- The **Indo – Gangetic plain**, which has stratified layers of sand and clay, is highly prone to subsidence.



Global crisis

- The **San Joaquin Valley of California,** land continues to sink by **0.3 m per year** due to excessive pumping of groundwater for a commercial orchard, which has caused permanent subsidence and landslides in the area.
- **Jakarta** is considered the world's fastest sinking city. With **40 percent** of the city already below sea level, it is predicted that by **2050**, some **95 per cent** of **North Jakarta** will be underwater.
- **Bangkok** in **Thailand** and **Ho Chi Minh City** in **Vietnam** are also sinking, with subsidence rates of up to **2 cm** and **5 cm per year**, respectively.

Threats posed by land subsidence

- As per the report, **'Sinking cities: Two ways to fight land subsidence', 77 per cent** of land subsidence cases are caused by **human activities,** with groundwater extraction accounting for **60 per cent.**
- Land subsidence can damage **buildings, roads, bridges, pipelines,** and other **infrastructure.**

- In **coastal areas**, land subsidence can lower the **elevation of land**, increasing the vulnerability to flooding
- Subsidence can alter **drainage patterns**, impacting **wetlands, rivers,** and **aquatic ecosystems.**
- The impacts of land subsidence can lead to **displacement of communities, economic losses** due to infrastructure damage, and reduced **livelihood opportunities.**

Way Forward

- Land subsidence cannot be reversed by groundwater recharge, so, the solution is to **arrest** the **over extraction** of **groundwater.**
- **Water budgeting** (availability and usage of water is computed) is important for **high-risk regions**
- It is important to **revive water bodies** that can aid **groundwater recharge.**

21) India-France Relationship

(GS2: Bilateral, Regional and Global Groupings and Agreements involving India and/or affecting India's interests)

Context

- India and France, two nations with a common vision and shared values, have forged a strong and **enduring partnership over the past 25 years.**

History of India-France relationship

- In 1998, they embarked on a strategic journey, marking the beginning of a remarkable alliance that encompasses not only a **robust bilateral relationship** but also a **convergence of views on international affairs.**
- **Economic cooperation:**
    - Trade relations have witnessed steady growth, with bilateral trade reaching an impressive $13.4 Bn in 2022-23, marking a significant **7.72% increase** from the previous year.
    - France has emerged as the **11th largest investor in India**, with FDI inflow of $10.5 Bn from April 2000 to March 2023.
- **Defense cooperation**
    - The armed forces of both nations engage in **joint exercises** to enhance interoperability and coordination.
    - France has been a valuable ally in India's defense modernization efforts, highlighted by the acquisition of **36 Rafale fighter aircraft in 2016 and the P-75 Scorpene project,** with the construction of six submarines.
    - Recently a significant defense deal was signed involving the **acquisition of Dassault's Rafale-M fighter jets** for the Indian Navy's newly commissioned indigenous aircraft carrier, INS Vikrant.
    - The defense partnership also reached new heights with declarations made to continue and reinforce the **15-year submarine building cooperation.**
- **Cooperation in space**
    - India and France have nurtured a remarkable partnership in the field of **aerospace research and space exploration**, **fostering innovation, technological advancements and mutual growth.**
    - Two notable collaborations include

        - The creation of the **Indo-French Centre for Aerospace Research and Innovation (IFCAR),** aimed at promoting R&D in aerospace technologies.
        - Several **joint research programs and satellite launches** by the French Space Agency (CNES) and the Indian Space Research Organisation (ISRO).
    - France has also provided **technical assistance in the construction of the Sriharikota launch-pad**, cementing a longstanding bond in the pursuit of space exploration and technological advancement.
- **Cooperation in infrastructure**
    - The two countries have also embarked on a **fruitful collaboration in the domain of smart cities,** forging a strong partnership to harness the potential of technology and innovation in urban development. For instance,
        - The French Development Agency (AFD) recently extended a loan of EUR 100 Mn ($112 Mn) to support India's Smart Cities Mission. Eg: Chandigarh smart city project.
    - The collaboration extends **beyond infrastructure** and includes areas such as **e-governance, citizen participation and data analytics.**

Significance of India-France relationship

- The economic synergy has fostered linkages between French businesses and the Indian economy, contributing significantly to **India's vision of becoming 'Aatmanirbhar Bharat'.**
- By leveraging France's experience and India's growing technological prowess, the smart city projects are **transforming urban landscapes** and improving the lives of millions.
- The India-France alliance on smart cities is a shining example of **how international partnerships can pool resources and knowledge** to drive innovation and shape a better future for urban communities.
- The partnership between India, the world's largest democracy, and France, a major European power, **carries substantial weight in global affairs** and serves as a platform for dialogue on regional and global challenges.

Conclusion

- The India-France relationship is poised for even greater heights as the Hon'ble Prime Minister's state visit to France marked a turning point in the bilateral relationship.
- Both countries recognize the strategic importance of continuing to enhance this partnership as **role models for maintaining regional stability** and paving the way for groundbreaking advancements across several sectors of global importance.

Model Questions

1) What is Technology Facilitated Sexual Violence? Discuss the challenges associated with it and also suggest measures to overcome those.

2) Changes can help make the Digital Personal Data Protection (DPDP) Bill, 2022 'future-proof'. Discuss.

3) With a renewed sense of urgency and a people-centered approach, India can significantly reduce disaster losses by 2030. Discuss.

4) Discuss the significance of Digital Public Infrastructure (DPI) in India with examples.

5) What do you understand by the term 'Climate-smart agriculture'? Discuss its significance in the context of global warming.

6) Discuss the issues with dryland farming in India. Suggest measures to address these issues.

7) PM-WANI aims to transform the digital connectivity space by addressing the challenges in it. Discuss.

8) Discuss the significance of India-UAE framework of local currency settlement system and interlinking payment systems.

9) Genetically modified crops can alleviate challenges associated with agriculture sector. Discuss in the light of GEAC's approval for environmental release of GM-Mustard.

10) Greater choice for women over their sexual and reproductive rights will lead to a healthier and productive society. Comment.

11) Examine the challenges posed by artificial intelligence and automation in workplace.

12) Discuss the steps that can be taken to ensure more equitable distribution of CSR funding.

13) Does the Governor have the power to dismiss an individual Minister without the advice of the Chief Minister? Discuss with reference to the constitution and relavant Supreme Court judgements.

14) India's rise as a global player is inevitably linked to the kind of partnership it enjoys with Africa. In this backdrop, discuss the measures to be adopted to further strengthen India-Africa ties.

15) What are the procedural safeguards available for blocking orders of specific content in social media? Discuss in the light of recent judgement against twitter's challenge by the Karnataka High Court.

16) Should India consider joining NATO plus framework? Discuss the opportunities and challenges for India.

17) India's demographic journey has changed the lives of its citizens, particularly its women. Comment.

18) Millet production assumes significance in recent years as it ensures sustainable agriculture and nutritional security. Discuss.

19) What are the issues associated with groundwater extraction? What measures can be taken to conserve groundwater?

20) ''Melting Glaciers will expose new ecosystems in need of protection" Analyze.

21) "If India has a natural ally, it's probably France". Discuss.