



UPSC MAINS 2024 General Studies Paper-3 Analysis

BAJIRAO IAS ACADEMY

Q) Describe the context and salient features of the Digital Personal Data Protection Act, 2023.

Safety net

A look at salient features of the Digital Personal Data Protection Bill, 2023

- The law will require companies to clearly mention to users what data are being collected and what they are being used for
- Users will get the right to delete or modify their personal data
- Entities failing to protect user data may face penalty of up to ₹250 crore per violation
- The Bill proposes creation of Data Protection Board of India
- It strikes off Section 43A of the IT Act, 2000 that requires companies which mishandle user data to compensate users
- Many facets of implementation will be prescribed via Gazette notifications at a later stage

- The Bill provides a wide range of exemptions for the "State and its instrumentalities". For instance, personal data can be processed "in the interest of sovereignty and integrity of India or security of the State" for "fulfilling any obligation under law"

- While the law requires firms to disclose to users the identity of other firms to which their data would be entrusted for processing, they are explicitly exempted from disclosing sharing of such data in the case of lawful interception of data



Approach

- Define digital personal data protection act,2023 in introduction.
- Describe context of digital personal data protection act,2023.
- Describe salient features of digital personal data protection act.2023.
- Conclusion.

The Digital Personal Data Protection Act (DPDPA) of 2023 is a significant step towards safeguarding personal data and privacy rights in India. The Act is based on the Supreme Court's 2017 Puttaswamy judgment, which recognized privacy as a fundamental right.

Context of digital personal data protection act,2023.

- ❑ The principle of consented, lawful and transparent use of personal data;
- ❑ The principle of purpose limitation (use of personal data only for the purpose specified at the time of obtaining consent of the Data Principal);
- ❑ The principle of data minimisation (collection of only as much personal data as is necessary to serve the specified purpose);
- ❑ The principle of data accuracy (ensuring data is correct and updated);
- ❑ The principle of storage limitation (storing data only till it is needed for the specified purpose);
- ❑ The principle of reasonable security safeguards; and
- ❑ The principle of accountability (through adjudication of data breaches and breaches of the provisions of the Bill and imposition of penalties for the breaches).

salient features of digital personal data protection act.2023.

- ❑ **The Bill is concise and SARAL, that is, Simple, Accessible, Rational & Actionable Law as it—**
 - **Uses plain language;**
 - **Contains illustrations that make the meaning clear;**
 - **contains no provisos (“Provided that…”); and**
 - **Has minimal cross-referencing.**

- ❑ **using the word “she” instead of “he”, for the first time it acknowledges women in Parliamentary law-making.**

- ❑ **The Bill provides for following rights to the individuals:**
 - **The right to access information about personal data processed;**
 - **The right to correction and erasure of data;**
 - **The right to grievance redressal; and**
 - **The right to nominate a person to exercise rights in case of death or incapacity.**

- ❑ **These are organizations and businesses that collect, amend, and delete data. They must specify how the data will be used, how long it will be retained, and why it is required.**

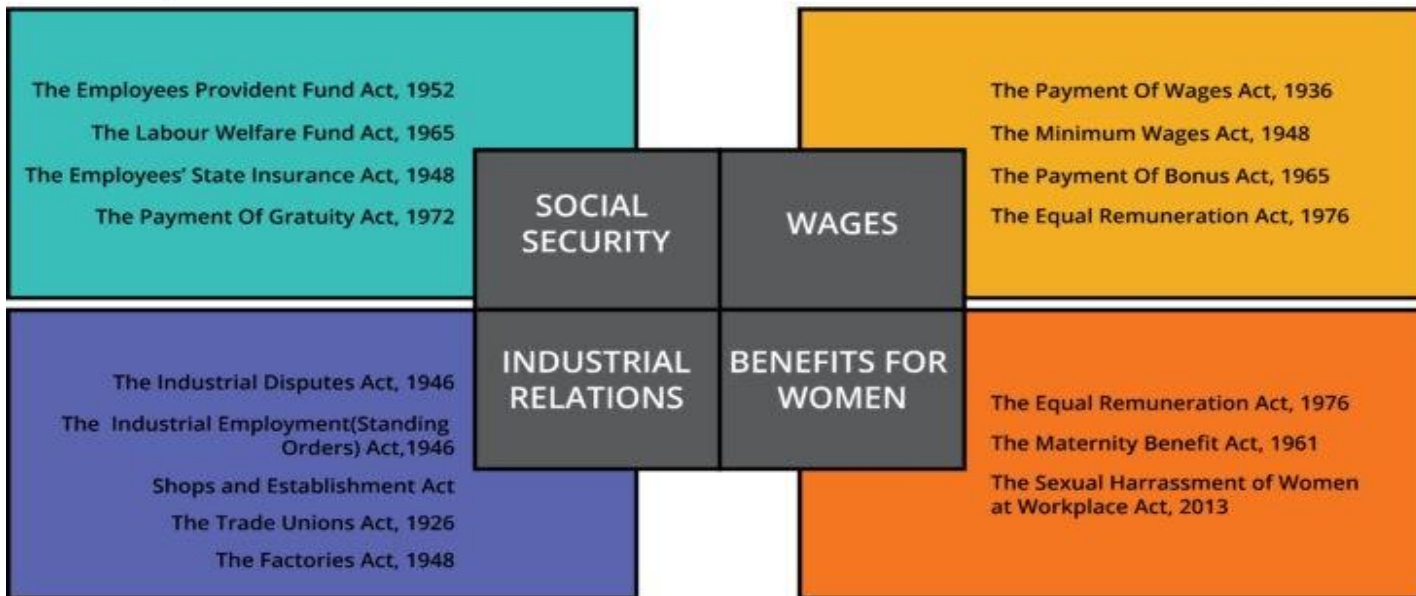
❑ The exemptions provided :

- For notified agencies, in the interest of security, sovereignty, public order, etc.;
- For research, archiving or statistical purposes;
- For startups or other notified categories of Data Fiduciaries;
- To enforce legal rights and claims;
- To perform judicial or regulatory functions;
- To prevent, detect, investigate or prosecute offences;
- To process in India personal data of non-residents under foreign contract;
- For approved merger, demerger etc.; and
- To locate defaulters and their financial assets etc.

The Digital Personal Data Protection Act, 2023 is a crucial step towards ensuring the privacy and security of personal data in the digital age. By setting clear guidelines and holding organizations accountable for the protection of sensitive information, the Act aims to build trust and confidence in the digital economy.

Q) Discuss the merits and demerits of the four 'Labour Codes' in the context of labour market reforms in India. What has been the progress so far in this regard? (Answer in 250 words)

LABOR LAWS IN INDIA



Approach

- Define Labour market reforms in India in introduction.
- Discuss merits and demerits of four labour codes in context of labour market reforms in india.
- Discuss progress in this regard.
- Conclusion.

The Minimum Wages Act, passed in 1948, provided for the establishment of minimum wage rates for workers in different industries.

In the 1950s and 1960s, the Indian government introduced several other labour laws, including the Payment of Wages Act, the Industrial Disputes Act, and the Employees' State Insurance Act. These laws provided for a range of protections for workers, including the right to fair wages, the right to dispute resolution, and social security benefits such as health insurance and pensions.

Merits and demerits of four labour codes in context of labour market reforms in india.

Merits

- Ease of hiring and firing: The Industrial Relations Code allows companies with up to 300 employees to lay off employees without government approval.**
- Fixed-term employment: Companies can hire workers on fixed-term contracts, which provides flexibility while ensuring workers' benefits.**
- Protection for workers: The codes provide greater protection and benefits for workers, including minimum wages, social security benefits, and grievance redressal mechanisms.**
- Ease of doing business: The codes aim to promote ease of doing business.**

Demerits

- ❑ **Implementation delay:** The implementation process is delayed as states are yet to finalize their rules under these codes.
- ❑ **Changes to IT systems:** The implementation of new labor codes may necessitate significant changes to how companies manage employee data and track compliance.

The four Labour Codes amalgamate several laws into one, including:

- ❑ The Wage Code
- ❑ The Social Security Code
- ❑ The Occupational Safety, Health and Working Conditions Code, 2020
- ❑ The Industrial Relations Code

progress in this regard.

Looking After Migrant Workforce:

- ❑ It is important for the draft rules to clearly state how their applicability will unfold with respect to the migrant informal workforce.

Eg; The governments' scheme of one India one ration card is a step in the right direction.

Recognizing Invisible Labour:


- ❑ A national policy for domestic workers needs to be brought in at the earliest to recognize their rights and promote better working conditions.**

Skilling Under CSR Expenditure:

- ❑ The large corporate houses should also take the responsibility of skilling people in the unorganized sectors under CSR expenditure.**

The four Labour Codes are a major reform to simplify India's labour laws, promoting ease of doing business and expanding social security to more workers. A balanced approach that includes the protection of workers' rights while fostering economic growth is essential to achieving inclusive and sustainable development.

Q) What is the need for expanding the regional air connectivity in India? In this context, discuss the government's UDAN Scheme and its achievements

UDE DESH KA AAM NAAGRIK (UDAN) 

India's Regional Air Connectivity Scheme

Aimed at bringing air travel within reach of the common man, Central Government has launched the UDAN scheme

Highlights

- Offers subsidy to airlines for flying to domestic airports with limited connectivity
- Fare cap of ₹ 2,500 per hour of flying by plane and ₹ 5,000 for helicopters
- State governments and airport operators will contribute to the scheme
- First flight under this scheme to take off in Jan 2017
- 50% seats of the UDAN flights to have a fare cap of ₹ 2,500 and the rest will have market-based pricing
- Applicable on flights of 200 km to 800 km distance
- Hilly, remote, island and security sensitive regions have no distance limit
- Centre will provide concessions on VAT and service tax to the airlines
- No landing charges, parking charges and Terminal Navigation Landing Charges
- A Regional Connectivity Fund will be created to fund the scheme

KBK Infographics

Approach

- ❑ Discuss importance of regional air connectivity in India in introduction.
- ❑ Discuss the need for expanding the regional air connectivity in India.
- ❑ Discuss UDAN scheme and achievements of UDAN scheme.
- ❑ Conclusion.

Regional air connectivity is important because it can ,Promote economic growth ,Reduce regional disparities ,Improve access to essential services ,Support employment ,Reduce congestion at major airports.

In India, the Ministry of Civil Aviation unveiled the Regional Connectivity Scheme (RCS), also known as UDAN (Ude Desh Ka Aam Nagrik), in June 2016. The scheme aims to make flying affordable, promote tourism, and increase employment opportunities.

The need for expanding the regional air connectivity in India.

Promote Economic Growth

- Expanding regional air connectivity can enhance access to remote areas, driving economic development through increased business opportunities, tourism, and trade.

Support employment

- Air connectivity can boost job creation in the aviation sector, as well as in hospitality, transport, and logistics.

Improve Accessibility


- Many regions in India, particularly in Tier 2 and Tier 3 cities, remain under-served by air transport, limiting their accessibility to the rest of the country. Improved connectivity can bridge this gap.

Reduce regional disparities

- ❑ Air connectivity can help ensure that development reaches all parts of the country, including remote and underserved regions.

UDAN scheme and achievements

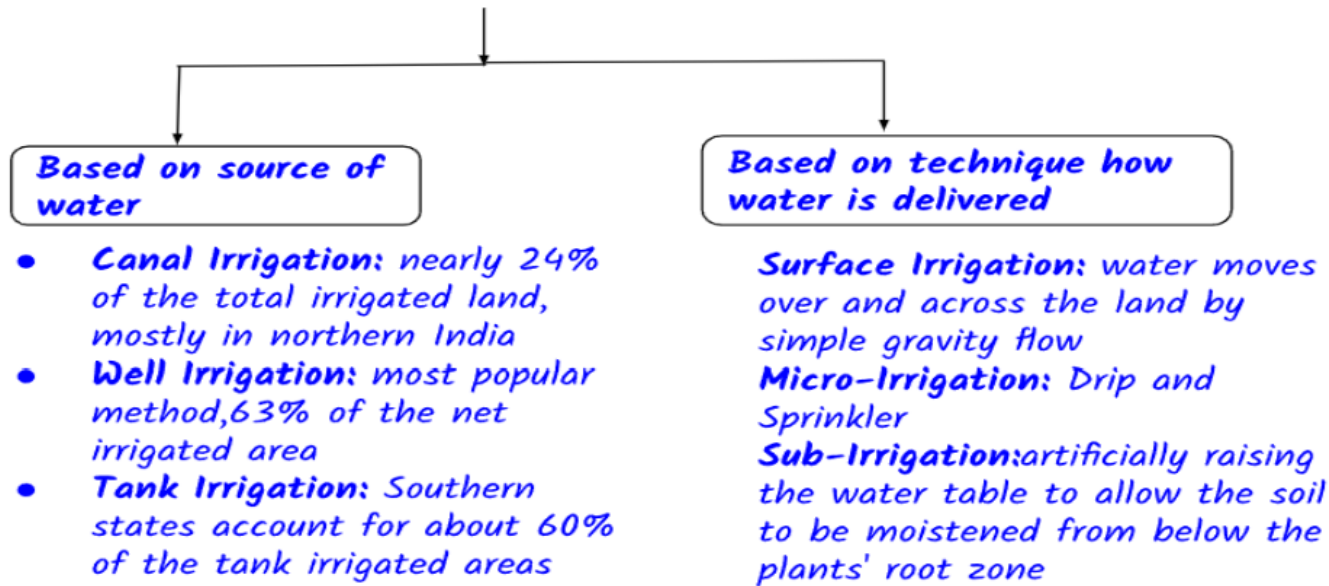
- ❑ The scheme was launched by the Ministry of Civil Aviation for regional airport development and regional connectivity enhancement.
- ❑ It is a part of the National Civil Aviation Policy 2016.
- ❑ The scheme is applicable for a period of 10 years.
- ❑ The scheme has also been able to provide a fair amount of air connectivity to Tier-2 and Tier-3 cities at affordable airfares and has transformed the way travelling was done earlier.
- ❑ The number of operational airports has gone up to 141 from 74 in 2014.
- ❑ 68 underserved/unserved destinations which include 58 Airports, 8 Heliports & 2 Water Aerodromes have been connected under UDAN scheme.

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- ❑ **With 425 new routes initiated, UDAN has provided air connectivity to more than 29 States/UTs across the country.**
 - ❑ **More than one crore passengers have availed the benefits of this scheme.**

Developing airports, incentivising airlines and pooling resources of both the Union and State governments can accelerate the harmonised growth of the Indian civil aviation sector which would be equitable and inclusive.

Q) What are the major challenges faced by the Indian irrigation system in recent times? State the measures taken by the government for efficient irrigation management. (Answer in 250 words)

Types of Irrigation systems



Approach

- ❑ Collect some data of states that face challenges by irrigation system.
- ❑ Discuss the major challenges faced by Indian irrigation system in recent times.
- ❑ State the measures taken by the government for efficient irrigation management.
- ❑ Conclusion.

Punjab and Haryana are critically affected by the over-exploitation of groundwater. Groundwater tables in these states have depleted by 33% in the last two decades. Uttar Pradesh is dependent on surface irrigation, which can lead to waterlogging and soil salinity.

Some other challenges faced by India's irrigation system include: Inefficient water use, Inadequate infrastructure, and Low adoption of modern techniques.

Major challenges faced by Indian irrigation system in recent times.

Uneven rainfall distribution

- ❑ In India, about nearly half of the net sown area comes under rainfed lands. Even after achieving ultimate irrigation potential, 31% of cultivable area will remain under rainfed cultivation. There has been substantial disparity in rainfall, both in time and space with strong risks of dry spells at critical stages of crop even during good rainfall years.

Poor irrigation efficiency

- ❑ Inadequate off-farm and on-farm infrastructures and poor maintenance leads to poor irrigation efficiency e.g. unlined canal and farm channels.

Huge and increasing gap between created and utilized irrigation potential

- ❑ There has been a large gap in utilization of created potential. At the end of Eleventh plan, total utilization of irrigation potential was to the extent of 87.86 million hectares as against the total created potential of 113.53 million hectares showing a gap of 25.67 million hectares

Frequent droughts and ground water overuse

- ❑ The frequency of occurrence of drought years has significantly increased in India. The period between 1950 and 1989 had 10 drought years, while there have been five droughts in the last 16 years. According to meteorologists, the frequency is set to increase between 2020 and 2049.

Measures taken by the government for efficient irrigation management.

Water management organizations

- ❑ Water Management organizations like Central Water Commission (CWC) for promoting integrated and sustainable development for management of water resources and Central Ground Water Board (CGWB) for management of ground water resources were established.

Subsidy to improve efficiency of irrigation system

- ❑ To mitigate water scarcity and reduce irrigation water demand, government has focused on increasing irrigation efficiency.

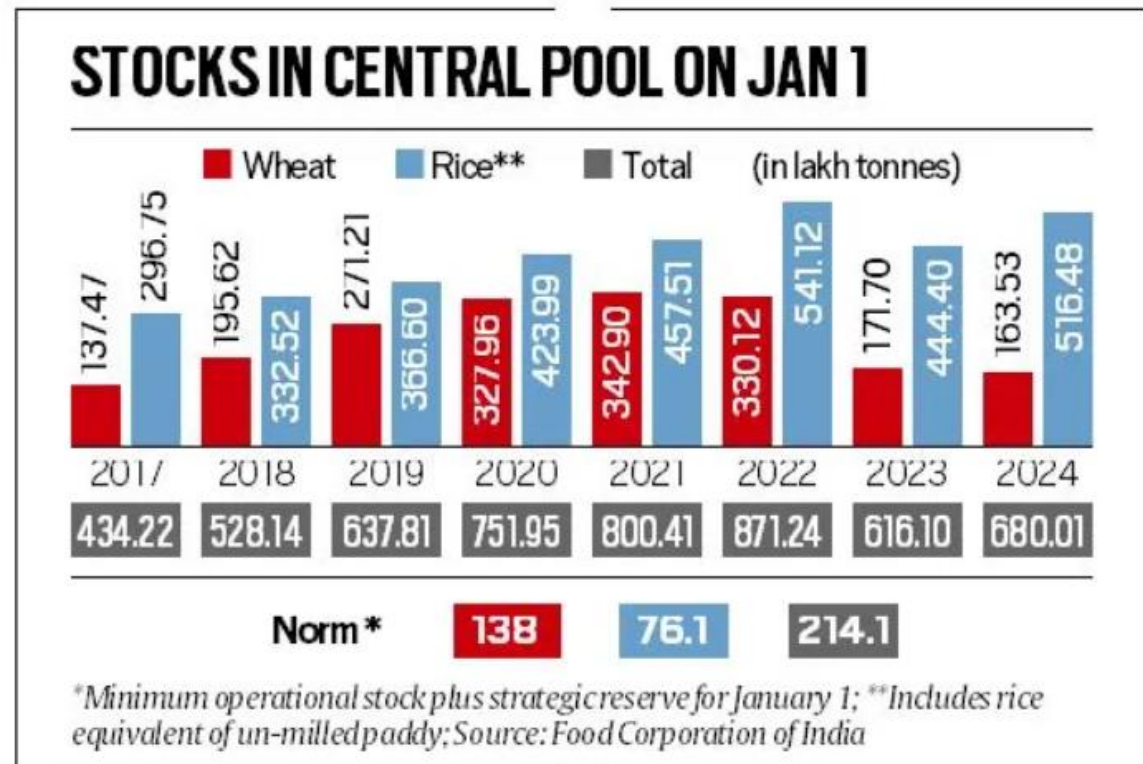
Various schemes launched by central government led emergence of micro irrigation

- ❑ Recognizing the importance of micro irrigation, Central Government emphasized on micro irrigation in 1992, 2006 (Centrally Sponsored Scheme on Micro Irrigation), 2010 (Nation Mission on Micro Irrigation) and 2014 (National Mission for Sustainable Agriculture).**
- ❑ Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) was launched in 2015, integrating micro irrigation as an integral component. This programme includes creating infrastructure to bring water to farms and watershed development.**

Irrigation infrastructure needs to be further improved to harvest rainwater and increase storage capacity in order to utilize runoff water. Micro irrigation has scope for improving irrigation efficiency up to 90 per cent. Further, micro irrigation and optimum crop plan will play decisive role in conservation of water resources and food security of the nation. Virtual water trade should be balanced instead of orienting it towards export.

Farmers should be made aware of the various government schemes to utilize their utmost potential which is lacking in some states.

Q) Elucidate the importance of buffer stocks for stabilizing agricultural prices in India. What are the challenges associated with the storage of buffer stock? Discuss. (Answer in 250 words)



Approach

- ❑ Define what are buffer stocks.
- ❑ Discuss the importance of buffer stock for stabilising agricultural prices in India.
- ❑ Discuss challenges associated with buffer stock.
- ❑ Conclude the answer by way forward to reduce challenges of buffer stock.

In economics and finance, buffer stocks can also refer to large quantities of a commodity, like a crop, fuel, or metal, that are bought and stored when prices are low and sold when prices are high. This helps to control the price and quantity of the commodity in the economy.

The concept of buffer stock was first introduced during the 4th Five Year Plan (1969-74).

Importance of buffer stock for stabilising agricultural prices in India.

- To ensure the availability of food grains for the public, especially the vulnerable sections, during adverse conditions like droughts, floods, or other crises.
- Buffer stocks help stabilize prices by releasing grains during shortages and absorbing surplus in bumper harvests.
- The government ensures fair prices to farmers through Minimum Support Price (MSP) procurement.
- Provides immediate relief during natural disasters by supplying food grains without delay.
E.g . During Covid-19 supply of free ration.



- ❑ Buffer stocks support the National Food Security Act (NFSA), ensuring food supply to a large portion of India's population at subsidized rates.

- ❑ The Cabinet Committee on Economic Affairs fixes the minimum buffer norms on a quarterly basis. The buffer stock figures are normally reviewed after every five years.

Challenges associated with buffer stock .

- ❑ India faces significant challenges in terms of inadequate storage facilities, leading to wastage and spoilage of food grains.

- ❑ There is often an imbalance in the procurement of different grains, leading to excess stocks of some and shortages of others.

- ❑ Maintaining large buffer stocks entails high financial costs related to procurement, storage, and distribution.

- ❑ The PDS often faces issues like leakages, pilferage, and corruption, which hinder the effective distribution of buffer stocks.

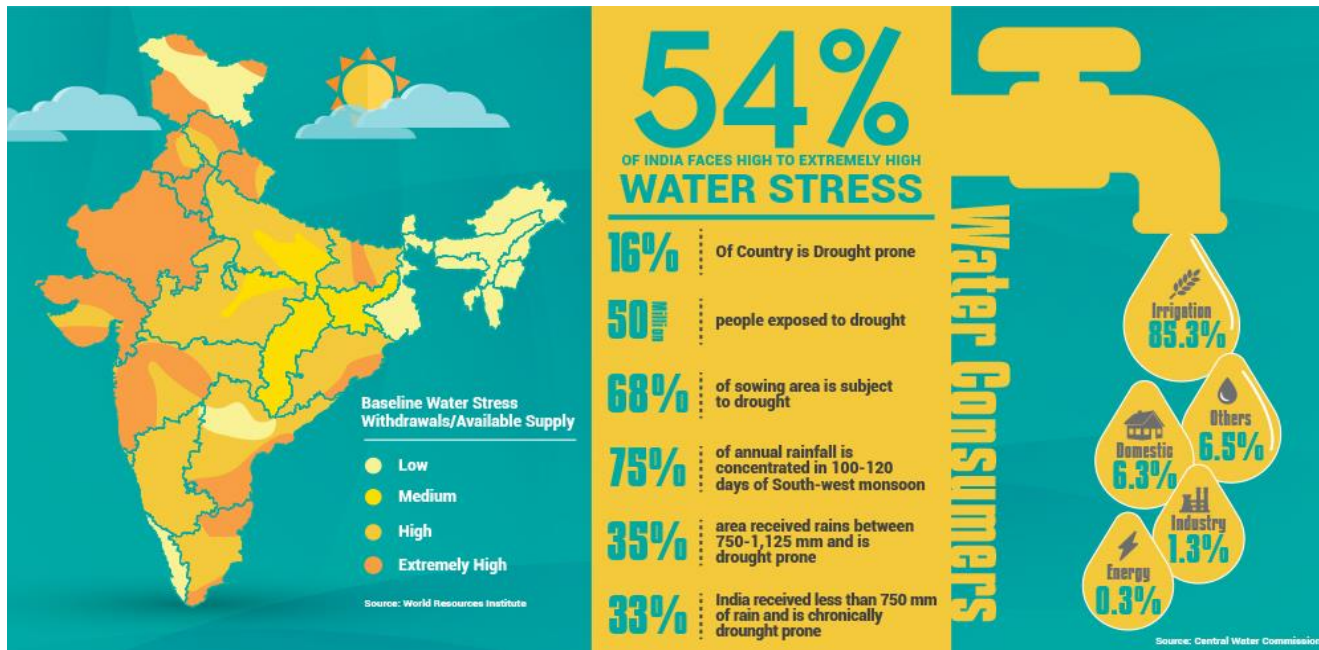
- ❑ Ensuring the quality of stored food grains over extended periods is a significant challenge.



Explore integrating technology like blockchain for transparent and secure buffer stock management. Additionally, consider utilising weather forecasting data from the India Meteorological Department to preemptively adjust buffer stocks based on potential weather events impacting production.

Government procurement is currently limited to rice, wheat, and a few pulses and oilseeds. Expanding this to include other essential food items, like staple vegetables and skimmed milk powder (SMP), could help stabilise prices further.

Q) The world is facing an acute shortage of clean and safe freshwater. What are the alternative technologies which can solve this crisis? Briefly discuss any three such technologies citing their key merits and demerits. (Answer in 250 words)



Approach


- Write some data on fresh water crisis in the introduction
- what are the reasons for acute shortage of clean and safe fresh water .
- Discuss the alternative technologies which can solve this crisis.
- Briefly discuss any three technologies and its merits and demerits.
- Conclusion.

163 Million Indians lack access to safe drinking water. 210 Million Indians lack access to improved sanitation. 21% of communicable diseases are linked to unsafe water. 500 children under the age of five die from diarrhea each day in India.

Only 0.5% of the water on Earth is usable and available freshwater. 25 countries face extremely high water stress, using up almost their entire available water supply.

Reasons for acute shortage of clean and safe fresh water

- One of the biggest drivers of water scarcity is drought. Drought is a natural phenomenon in which dry conditions and lack of precipitation – whether it is rain, snow or sleet – occur over certain areas for a period of time.**
- The world's population is just short of eight billion people, which translates to a growing demand for water amid water stress from climate change. Urbanisation and an exponential increase in freshwater demand for households are both driving factors behind water shortages, especially in regions with a precarious water supply.**

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- ❑ **Water pollution already kills more people each year than war and all other forms of violence combined. As we only have less than 1% of the Earth's freshwater accessible to us, human activity is actively threatening our own water resources.**
 - ❑ **India experiences uneven distribution of rainfall, with the majority of precipitation occurring during the monsoon season (June to September). States like Kerala and Meghalaya receive excessive rainfall, while arid regions like Rajasthan and Gujarat face chronic water shortages.**

Alternative technologies which can solve this crisis.

- ❑ **Desalination: A promising method to increase fresh water capacity by removing dissolved solutes from seawater and brackish water.**
- ❑ **Rainwater harvesting: An affordable way to reduce the use of fresh water from surface and groundwater sources .**
- ❑ **Drip irrigation: A solution that can promote plant growth, increase yields, and reduce soil salinity .**
- ❑ **Water reuse: A beneficial practice that can be used to address the water crisis, especially in agriculture**
- ❑ **Reverse osmosis: A reliable and cost-effective method for purifying water**

Any three technologies and its merits and demerits.

Desalination :

Merits

- Water supply:** Desalination can increase the water supply, especially in areas with limited water resources or droughts..
- Environmental protection:** Desalination can help protect freshwater ecosystems by tapping into seawater resources.

Demerits

- Cost:** Desalination can be expensive to build and maintain plants.
- Water quality:** Desalination can have water quality concerns if chemicals are used.

Reverse osmosis (RO)

Advantages

- Removes contaminants:** RO can remove up to 99.99% of contaminants like lead, chlorine, fluoride, arsenic, and asbestos.
- Improves taste and smell:** RO removes strong-smelling chemicals and other compounds that can make water taste and smell better.

Disadvantages

- ❑ **Water waste:** RO systems can waste 3–20 times as much water as they produce.
- ❑ **Removes healthy minerals:** RO removes minerals like calcium, magnesium, and potassium.

Drip irrigation

Merits

- ❑ **Efficient water use:** Drip irrigation systems are typically 90% or higher efficient, which is more efficient than sprinkler systems.
- ❑ **Reduced soil erosion:** Drip irrigation systems deliver water at low pressure, which reduces the risk of soil erosion, root exposure, and water runoff.

Demerits

- ❑ **High initial costs:** Drip irrigation systems can cost 20% to 100% more than pivot-irrigation systems.
- ❑ **Clogging:** Drip emitters can clog, which can reduce irrigation efficiency and uniformity. Clogged emitters can be difficult to detect and expensive to clean or replace.

By addressing the root causes of the shortage, implementing sustainable water management practices, and promoting conservation efforts, we can ensure a reliable supply of freshwater for current and future generations. It is essential for governments, organizations, and individuals to work together to safeguard this precious resource and protect the health and well-being of communities worldwide.

Q) What are asteroids? How real is the threat of them causing extinction of life? What strategies have been developed to prevent such a catastrophe? (Answer in 250 words)

What is a....?

Comet

A comet is a mass of ice, rock, and dust, and often has a tail that is made up of dust and other materials.



Asteroid

An asteroid is made up of metallic or non-metallic rocks, and orbits the sun. They can range in size from a few centimeters wide to almost a thousand kilometers across!



Meteoroid

Meteoroids are usually fragments of asteroids or comets, often smaller than 1 meter wide, that fly through space.



Meteor

A meteor is a meteoroid that enters Earth's atmosphere. It burns up as it travels through the atmosphere, producing a streak of light behind it.



Meteorite

If a meteor doesn't completely burn up in the Earth's atmosphere, the fragment found on Earth is called a meteorite.



Approach

- Introduce the answer with mentioning what are asteroids .
- Discuss the threat of extinction on the planet due to asteroid strike Discuss is it real ..?
- Mention what strategies have been developed to prevent such catastrophe .
- Conclude the answer by stressing on global collaboration to protect the planet from asteroids .

Asteroids are small, rocky objects that orbit the sun. Although asteroids orbit the sun like planets, they are much smaller than planets .There are lots of asteroids in our solar system. Most of them live in the main asteroid belt—a region between the orbits of Mars and Jupiter.

The threat of extinction of on the planet due to asteroid strike Discuss is it real ..?

Size

- Asteroids as small as 50 meters in diameter can cause regional destruction. Asteroids over 1 kilometer in size can cause global climatic effects.

Speed

- The impact speed of a long-period comet is likely to be much greater than that of a near-Earth asteroid, making it more destructive.

Warning time

- The average warning time for near-Earth asteroids is likely to be about 1,000 years or more.

Historical evidence

- The asteroid impact caused the extinction of dinosaurs 66 million years ago.

- ❑ The threat of an asteroid strike causing extinction on Earth is real, but it's rare. The probability of a giant asteroid impact over the next billion years is between 0.03 and 0.3. However, there have been significant advances in technologies to detect and deflect asteroids, and international cooperation is crucial to averting future threats.

What strategies have been developed to prevent such catastrophe

- ❑ Gravity tractor: Using a spacecraft's gravity to slowly change the asteroid's trajectory. This technique is most effective, but it might not work on asteroids larger than 500 meters in diameter.
- ❑ Ion beam shepherd: Using an ion engine's exhaust to push an asteroid. This technique is more efficient than a gravity tractor for asteroids under 2 kilometers wide.
- ❑ Kinetic impactor: Sending a spacecraft to slam into the asteroid.
- ❑ Nuclear detonation: Firing a nuclear-laden spacecraft at an asteroid. This could be the best option in a planetary emergency.
- ❑ Non-destructive projectile: Impacting the asteroid with a non-destructive projectile.
- ❑ High-power laser: Ablating the asteroid's surface with a high-power laser.

International Asteroid Warning Network (IAWN)

Facilitates communication between space agencies and astronomers to quickly share information about potential asteroid threats.

NASA's Planetary Defense Coordination Office (PDCO)

Manages NASA's mission to find, track, and understand asteroids and comets that could impact Earth.



Thank you

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