

SUMMARY OF DOWN TO EARTH

[01–15 September, 2024]

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SUBJECTIVE QUESTIONS

MCQS

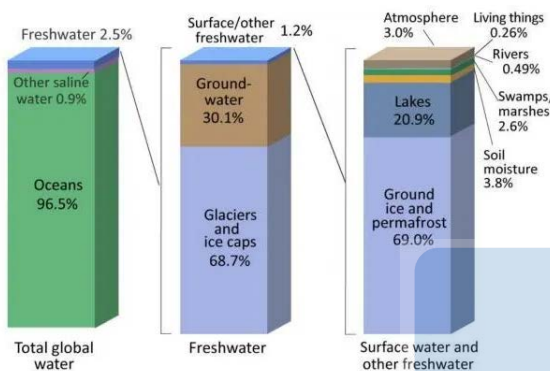
WATER RESOURCE AND ITS SCARCITY

Context

- People across countries have understood that there is a need to be cautious about water availability and judicious use.

Understanding Water Availability

- **Global Water Distribution:** 97.5% of Earth’s water is saltwater; Most freshwater is in ice caps or underground;
 - **Only 0.26% is in rivers, lakes, and ponds.**



Source	Percentage
Oceans	97.2%
Glaciers	2.1%
Groundwater	0.65%
Lakes	0.017%
Soil Moisture	0.005%
Streams, wetlands and swamps	0.001%
Total	100%

Current Water Crisis

- According to the United Nations, nearly 2.2 billion people lack access to safely managed drinking water services.
- It is not just about the availability of water but also about its quality and distribution.
- In many regions, water sources are contaminated, leading to health issues and reduced quality of life.

Causes of Water Scarcity

- **Climate Change:** Increasing temperatures and changing precipitation patterns are reducing the availability of fresh water in many regions.

- **Population Growth:** As the global population grows, the demand for water increases, putting additional pressure on already stressed water resources.
- **Agricultural Practices:** Agriculture accounts for about 70% of global freshwater use. Inefficient irrigation practices lead to significant water wastage.
- **Industrial Use:** Industries consume large amounts of water, often leading to pollution and depletion of local water sources.
- **Urbanisation:** Rapid urbanisation increases water demand and leads to the over-extraction of groundwater.

Recent Findings

- Groundwater Depletion in India; Lack of prioritisation and guidelines; Issues with Water Management; Policy and Infrastructure Gaps; No segregation of water; No policy for industrial usage; Wastage in various fields; and Smart cities lack basic water infrastructure.

Importance of Water Conservation

- **Sustainability:** Conserving water ensures that future generations have access to this vital resource.
- **Economic Benefits:** Efficient water use can reduce costs for households, businesses, and governments.
- **Environmental Protection:** Reducing water consumption helps protect ecosystems and biodiversity.
- **Health and Sanitation:** Access to clean water is essential for maintaining public health and hygiene.

Strategies for Saving Water

- **Efficient Irrigation:** Adopting modern irrigation techniques such as drip irrigation can significantly reduce water use in agriculture.
- **Water-Saving Technologies:** Installing low-flow fixtures, efficient appliances, and smart irrigation systems can help conserve water in homes and businesses.

- **Rainwater Harvesting:** Collecting and storing rainwater for later use can reduce dependence on groundwater and municipal water supplies.
- **Wastewater Treatment and Reuse:** Treating and reusing wastewater for non-potable purposes can alleviate pressure on freshwater resources.
- **Public Awareness and Education:** Educating the public about the importance of water conservation and encouraging behavioural changes can lead to significant water savings.

SINGLE-USE PLASTIC

Context

- More than two years after India's ban on 19 single-use plastic items came into force, several items, including bags, cutlery and sticks, are reported to be available across the country.

About the Single Use Plastics

- Plastic's invention in 1907 led to its widespread use due to affordability, durability, and aesthetic appeal.
- Major single-use plastic applications include *food and beverages (31%), bottle and container caps (16%), plastic bags (11%), and straws, stirrers, beverage bottles, and containers (7%)*.
 - These are those that are discarded after one-time use. However, the non-degradable nature of these materials has led to significant environmental challenges.
- **India**, a country with a population of over 1.4 billion, has **chosen to regulate, rather than outright ban, single-use plastic**.
- In recent months, some states have placed new restrictions on these items.
 - **Nagaland** banned all single-use plastic bags and small plastic bottles from August 2024. Later on, **Meghalaya's High Court** prohibited the use of plastic bags in temples and shops in the state.
 - Earlier in April 2024, the **Odisha** banned single-use plastics in parks, sanctuaries and reserves in the state.

Challenges Associated with Single-Use Plastics

- **Enforcement and Compliance:** While many governments have implemented regulations to restrict the use of single-use plastics, ensuring compliance can be challenging.
- **Waste Management:** India lacks an organised system for the management of plastic waste, leading to widespread littering across its towns and cities.
 - Many plastic items end up in landfills or as litter in the streets, rivers, and other public spaces, posing severe threats to the environment and wildlife.
- **Health Risks:** Single-use plastics pose environmental, social, economic, and health risks to people by contributing to the climate crisis, ecosystem degradation, and resource use.
 - Microplastics, non-biodegradability, and their carbon footprint compound these issues.

India's Efforts Related to Single-Use Plastics

- **Regulatory Measures:** In 2022, India implemented the **Plastic Waste Management Amendment Rules (2021)** that banned **19 categories of 'single-use plastics'**.
 - These include items such as plastic cups, spoons, earbuds, decorative thermocol, wrapping or packaging film used to cover sweet boxes and cigarette packets, and plastic cutlery.
 - However, it does *not include plastic bottles – even those less than 200ml – and multi-layered packaging boxes (like in milk cartons)*.
 - Despite the ban, enforcement has been inconsistent, with several outlets continuing to retail these goods.
 - The current ban only addresses about 11% of single-use plastic in India.
- **International Commitments:** India is a party to the **United Nations Environment Assembly (UNEA)**.

CANCER IN INDIA

- In all, 124 nations are part of the UNEA, and India has **signed a resolution to draw up an agreement** in the future that will make it **legally binding** for signatories to address the full life cycle of plastics, from production to disposal.
- **Public Awareness and Participation:** The Swachh Bharat Mission (SBM) to manage 100% of solid waste scientifically.
 - It is being implemented with resolve, and progress is monitored, measured and results placed in the public domain.
 - **SBM 2.0** also emphasises the need for plastic management – working towards **minimising single-use plastic** and operationalising recycling and reuse through processing.
- **Extended Producer Responsibility (EPR):** EPR policies, which hold producers responsible for the disposal of their products, are often part of regulatory approaches.
 - These policies can incentivize producers to design products that are easier to recycle or dispose of.

Road Ahead

- The upcoming U.N. meet will involve discussions on **‘problematic and avoidable plastic products including single-use plastics’**, which refer to sections of plastics that are likely to harm the environment as well as human health.
- The aim is to implement global and national measures such as removing these products from the market, reducing production through alternate practices or non-plastic substitutes, and redesigning problematic items to meet criteria for sustainable and safe product design.
- India has called a **‘zero draft’**, that vouches for **‘regulating’ instead of ‘not allowing’**, the production, sale, import, and export of problematic and avoidable plastic goods.
 - It has, however, agreed to a **‘science-based criteria’** for identifying such plastics.

Context

- Recently, Himachal Pradesh announced that **42 cancer medicines and some injections** will be provided free of charge, including a breast cancer vaccine that costs up to Rs 40,000 per dose.

About Cancer

- In our body, cell growth and differentiation is highly controlled and regulated. **In cancer cells, there is breakdown of these regulatory mechanisms.**
- Normal cells show a property called **contact inhibition** by virtue of which contact with other cells inhibits their uncontrolled growth.
- Cancer cells appear to have lost this property. As a result of this, **cancerous cells just continue to divide giving rise to masses of cells called tumours.**

Tumours

- These are of two types: **benign and malignant.**
 - **Benign tumours** normally **remain confined to their original location** and do not spread to other parts of the body and cause little damage.
 - **The malignant tumours** are a **mass of proliferating cells called neoplastic or tumour cells**, which grow very rapidly, invading and **damaging the surrounding normal tissues.** **Metastasis** is the most feared property of malignant tumours.

Causes

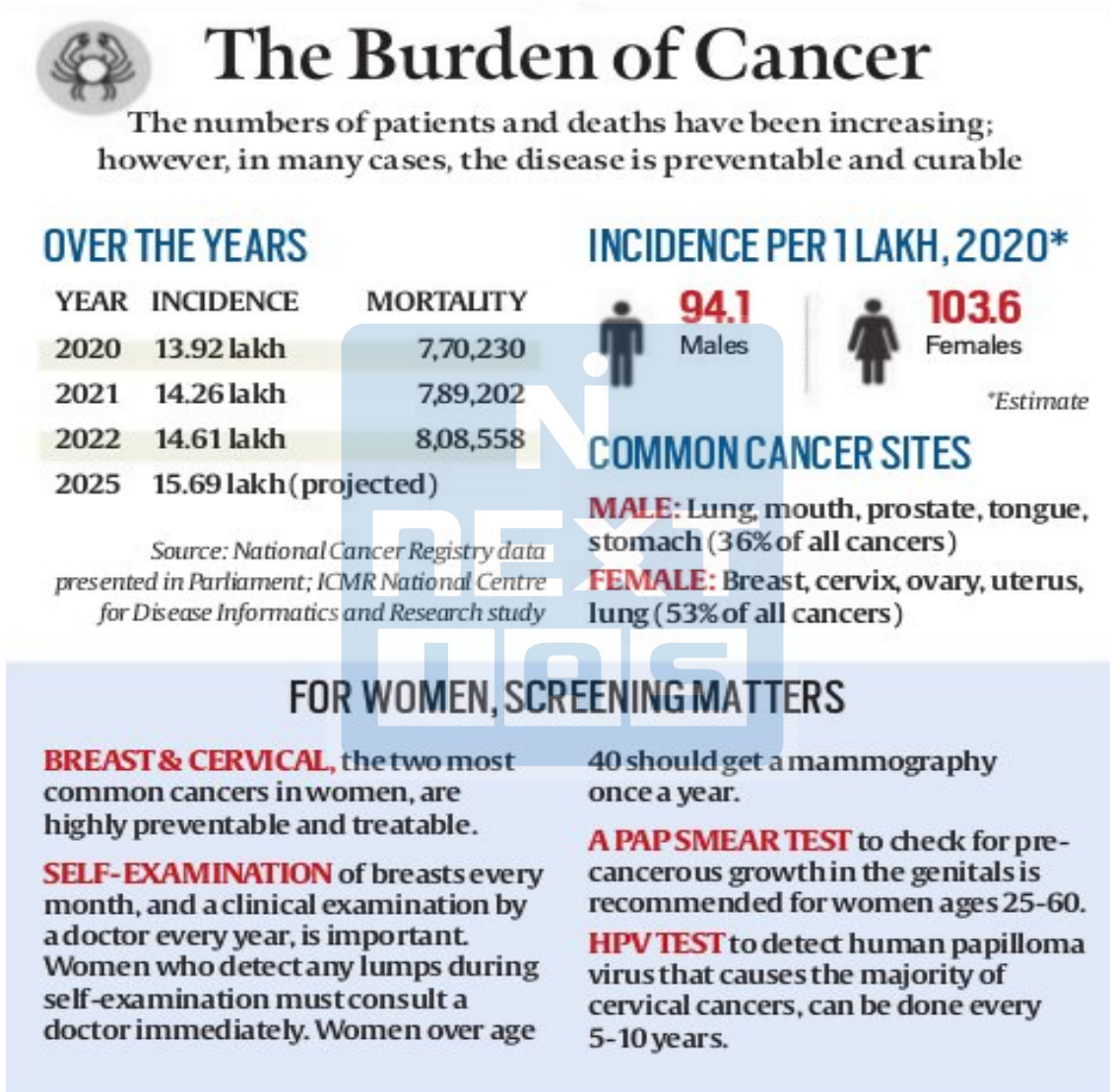
- Transformation of normal cells into cancerous neoplastic cells may be induced by physical, chemical or biological agents, called **carcinogens.**
- **Ionising radiations** like X-rays and Gamma rays and **non-ionizing radiations** like UV cause DNA damage leading to **neoplastic transformation.**
- The **chemical carcinogens** present in tobacco smoke have been identified as a major cause of lung cancer.

Risk Factors

- Environmental and socioeconomic factors, such as high levels of pollution and lifestyle choices, play a significant role.
- Tobacco use is a major cause, accounting for nearly 40% of cancer cases in the country.
- Poor diet, lack of physical activity, and increasing obesity rates also contribute to the rising cancer burden.

Prevalence and Statistics

- According to recent data, the country reported approximately 1.39 million new cancer cases in 2020, a number expected to rise to **approx 1.57 million by 2025**.
- The most common cancers among women are breast, cervix, and ovarian cancers, while lung, mouth, and prostate cancers are prevalent among men.



- As per the 'Global Tuberculosis Report 2023' of WHO, India accounts for **27% of the world's TB cases**.
- **Pulmonary TB** (or TB of the lungs) is the most common and contagious form of the disease. The other forms of TB result from the spread of the infection from lungs to other organs.

Detection and Diagnosis

- **Early detection** of cancers is essential, which is based on **biopsy and histopathological studies** of the tissue and blood and bone marrow tests for increased cell counts in the case of Leukemias.
- **Techniques** like **radiography** (use of X-rays), **CT** (computed tomography) and **MRI** (magnetic resonance imaging).

Treatment

- The common approaches for treatment of cancer are **surgery, radiation therapy and immunotherapy**.
- Most cancers are treated by combination of surgery, radiotherapy and **chemotherapy**.

Government Initiatives and Efforts

- Programs like the **National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases, and Stroke (NPCDCS)** aim to reduce the burden of cancer through early detection and awareness campaigns.
- The government has a **National Strategic Plan to End Tuberculosis in India by 2025**—five years ahead of the deadline set by the UN's Sustainable Development Goals.
- Additionally, efforts are being made to improve healthcare infrastructure and make cancer treatment more accessible and affordable.

LOW PARTICIPATION IN PM-KUSUM YOJANA

Context

- Despite tremendous potential, **PM-KUSUM**, India's flagship scheme to promote **solar irrigation pumps** has now been **extended to 2026** because of low participation.

About the PM-KUSUM Yojana

- The **Pradhan Mantri Kisan Urja Suraksha Evam Utthaan Mahabhiyan (PM-KUSUM)** aims to

promote the **use of solar energy in the agricultural sector**, and to provide farmers with reliable and sustainable energy sources, reduce their dependence on diesel and grid electricity, and enhance their income through the sale of surplus solar power.

- It is being implemented in collaboration with state governments and various stakeholders. It provides financial assistance and subsidies to farmers for the installation of solar pumps and plants.

Objectives of PM-KUSUM

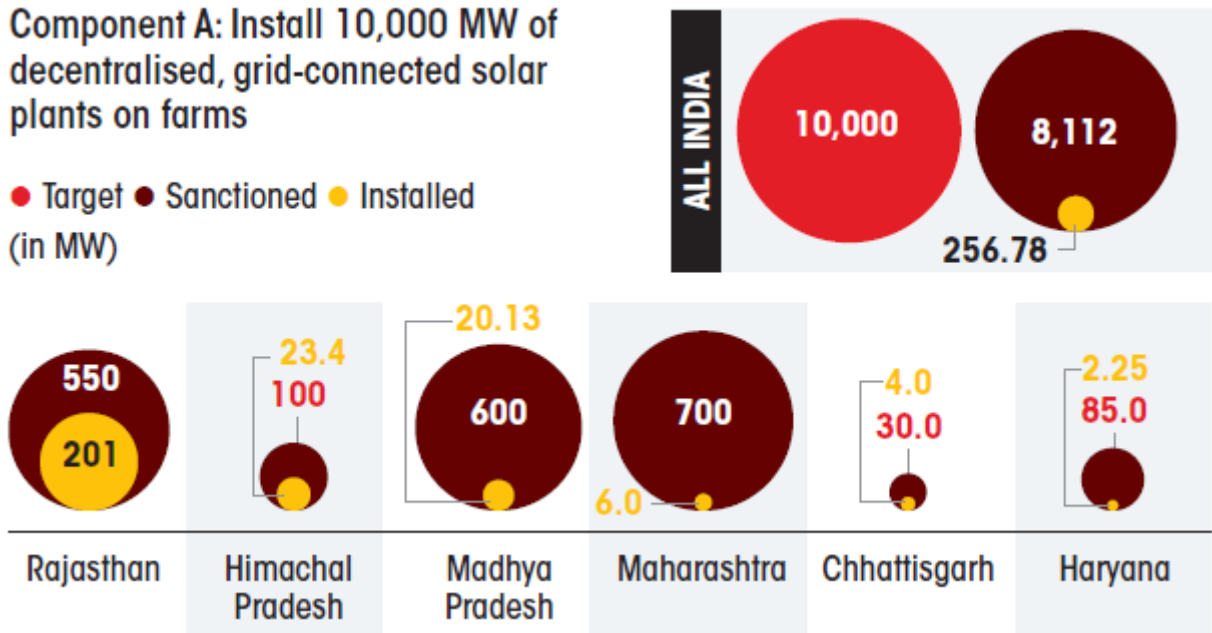
- **Energy Security for Farmers:** By installing solar pumps and grid-connected solar power plants, PM-KUSUM ensures that farmers have access to a consistent and affordable energy supply for irrigation.
- **Environmental Benefits:** The scheme promotes the use of clean energy, thereby reducing carbon emissions and contributing to India's climate goals.
- **Economic Upliftment:** Farmers can generate additional income by selling surplus electricity generated from solar plants to the grid.

Components of PM-KUSUM

- **Component-A:** Installation of 10,000 MW of decentralised ground-mounted grid-connected renewable power plants.
- **Component-B:** Installation of 20 lakh standalone solar-powered agriculture pumps.
- **Component-C:** Solarisation of 15 lakh grid-connected agriculture pumps.

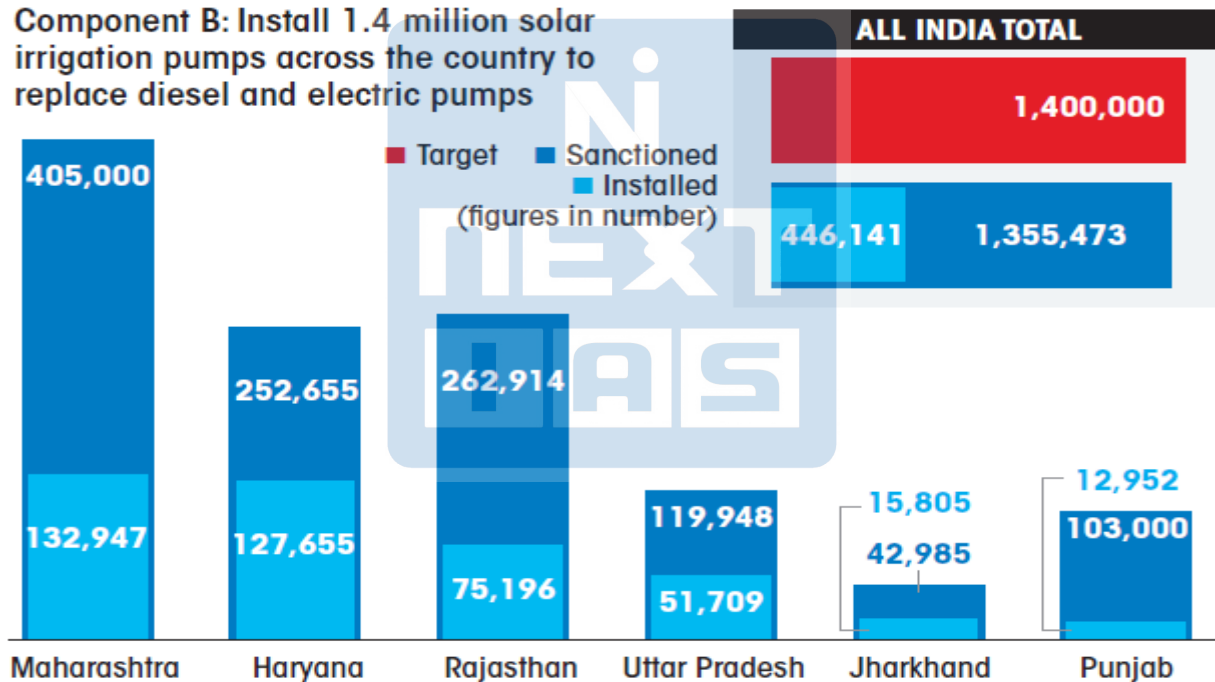
Component A: Install 10,000 MW of decentralised, grid-connected solar plants on farms

● Target ● Sanctioned ● Installed
(in MW)



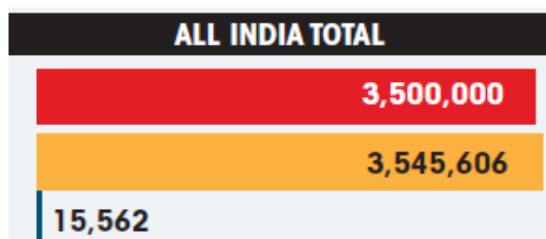
Component B: Install 1.4 million solar irrigation pumps across the country to replace diesel and electric pumps

■ Target ■ Sanctioned ■ Installed
(figures in number)



Component C: Install 3.5 million grid-connected agricultural pumps. Surplus power to be sold to sub-station

■ Target ■ Sanctioned ■ Installed
(figures in numbers)



Reasons For Low Participation in PM-KUSUM

- **High Initial Costs:** One of the primary barriers to participation is the high upfront cost of installing solar pumps and plants.
 - Although the scheme provides financial assistance, the remaining cost can still be prohibitive for many farmers.
- **Awareness and Accessibility:** Many farmers, especially in remote areas, are not fully aware of the benefits and procedures of the PM-KUSUM scheme.

- This lack of awareness limits their ability to take advantage of the program.
- **Technical and Maintenance Issues:** The maintenance of solar equipment requires technical knowledge and resources that are not readily available to all farmers.
 - It can lead to reluctance in adopting solar technology.
- **Land Availability:** The requirement for land to install solar plants can be a significant hurdle.
 - Farmers with limited land may be unwilling or unable to allocate space for solar installations.
- **Financial and Administrative Hurdles:** The process of applying for subsidies and loans can be complex and time-consuming, discouraging farmers from participating.
 - Additionally, delays in subsidy disbursements can further deter potential beneficiaries.

Measures to Enhance Participation

- **Increased Financial Support:** Enhancing the financial assistance provided under the scheme, including higher subsidies and low-interest loans, can make solar installations more affordable for farmers.
- **Awareness Campaigns:** Conducting extensive awareness campaigns through various media channels and local outreach programs can educate farmers about the benefits and procedures of the scheme.
- **Simplified Procedures:** Streamlining the application and approval processes can reduce administrative burdens and make it easier for farmers to access the scheme's benefits.
- **Technical Support and Training:** Providing technical support and training to farmers on the maintenance and operation of solar equipment can address technical barriers and ensure the longevity of installations.
- **Flexible Land Use Policies:** Implementing policies that allow for flexible land use, such as installing solar panels on less productive land or integrating solar installations with existing agricultural practices, can help overcome land availability issues.

CLIMATE COST OF FOOD & NUTRITION

Context

- Recently, the Reserve Bank of India (RBI), in its Bulletin, flagged how climate change is fuelling the rise in food prices, highlighting the increase in food prices is now more due to the supply disruption caused by erratic weather and the extreme climatic events.

Climate Cost of Food & Nutrition

- Food production is a significant contributor to **greenhouse gas emissions, deforestation, and biodiversity loss.**
- According to the FAO, agriculture, forestry, and other land use activities account for approximately **24% of global greenhouse gas emissions.** These emissions arise from various sources, including methane from livestock, nitrous oxide from fertilisers, and carbon dioxide from deforestation and soil degradation.

Food Waste and Its Carbon Footprint

- The UN reports that approximately one-third of all food produced globally is lost or wasted. It represents not only a loss of valuable resources but also a significant source of greenhouse gas emissions.
- When food waste decomposes in landfills, it produces methane, a potent greenhouse gas.

Nutritional Implications

- Climate change can affect crop yields and nutritional quality. For instance, **higher CO₂ levels can reduce the protein, zinc, and iron content of staple crops** like wheat and rice.
- It can exacerbate malnutrition, particularly in vulnerable populations that rely heavily on these staples for their dietary needs.

Impact on Food Prices

- According to RBI's recent Bulletin, food price increases are now predominantly driven by supply disruptions caused by extreme weather events.

- It means that traditional mechanisms for controlling prices, which rely on balancing production and consumption, are no longer effective.
- Between 2016 and 2020, the average food inflation rate was 2.9%. However, this figure more than doubled to 6.3% in the 2020s, primarily due to overlapping supply shocks from climate events.
- These disruptions affect the distribution and intensity of the monsoon, increase temperatures, and hinder crop growth, leading to persistent and widespread food inflation.

Global Perspective

- According to the Food and Agricultural Organization (FAO), food prices have surged due to climatic anomalies globally.
 - The **FAO's Food Price Index** showed a decade-high average rise of 28% in 2021, with climatic conditions being a primary driver.
- Historical data from the RBI indicates that seven out of nine double-digit inflation episodes between 1956 and 2010 were caused by drought conditions.

Conclusion

- Addressing the climate cost of food and nutrition requires a multifaceted approach. Policymakers must develop strategies to mitigate the impact of climate change on agriculture, improve food supply chain resilience, and ensure affordable access to nutritious food.
- As climate events become more frequent and severe, proactive measures are essential to safeguard food security and public health.

Prelims

MPOX: A GLOBAL HEALTH CONCERN

Context

- Recently, the World Health Organization (WHO) declared the Mpox disease 'a public health emergency of international concern'.

About

- Mpox, **previously known as monkeypox**, is a **viral illness** caused by the **monkeypox virus**, a member of the **Orthopoxvirus genus**.
- It is an enveloped **double-stranded DNA virus**, closely related to the viruses that cause **smallpox and cowpox**.
- The monkeypox virus was **first identified in humans** in 1970 in the **Democratic Republic of the Congo (DRC)**.
- There are **two distinct clades** of the virus: **clade I** (with subclades Ia and Ib) and **clade II** (with subclades IIa and IIb).

Recent Outbreaks

- Mpox has seen a resurgence, **particularly in the DRC and other African countries**. The WHO declared the upsurge of Mpox in the DRC and other regions a **Public Health Emergency of International Concern (PHEIC)** in August 2024.
 - It underscores the need for a coordinated international response to control the spread of the virus and prevent further outbreaks.

Transmission

- Mpox is transmitted through **close contact** with an infected person, contaminated materials, or infected animals.
 - It can spread through *skin-to-skin contact, respiratory droplets, and contact with bodily fluids*.
- During pregnancy, the virus **can be transmitted to the foetus**, and it can be **passed to newborns** during or after birth.

Symptoms

- Common symptoms include a painful skin rash or mucosal lesions, fever, headache, muscle aches, back pain, low energy, and swollen lymph nodes.

Prevention and Treatment

- **Vaccination** is a key strategy in preventing Mpox.

- While antiviral treatments such as **Tecovirimat** have been found to be ineffective, vaccines such as **Jynneos and Acam 2000** (originally developed for smallpox) are expected to provide cross-protection against clade I Mpox
- Public health interventions, such as surveillance, case investigation, and contact tracing, are crucial in managing outbreaks.

SILICON-BASED PHOTOVOLTAIC CELLS

Context

- Recently, scientists at the University of Oxford have developed a material that could revolutionise the solar power that depends on **silicon-based photovoltaic cells**.

Science Behind Silicon PV Cells

- **Silicon, a semiconductor material**, is the primary component used in most photovoltaic cells.
- When sunlight strikes a silicon PV cell, it excites electrons, creating an electric current (**photovoltaic effect**). Silicon's abundance and favourable electronic properties make it an ideal material for solar cells.
 - **Photovoltaic Effect** was first discovered by French physicist Edmond Becquerel in 1839.

Types of Silicon PV Cells

- **Monocrystalline Silicon Cells:** These cells are made from a single, continuous crystal structure. They are known for their high efficiency and longevity but are more expensive to produce.
- **Polycrystalline Silicon Cells:** Made from silicon crystals melted together, these cells are less efficient than monocrystalline cells but are cheaper to manufacture.
- **Thin-Film Silicon Cells:** These cells use a thin layer of silicon on a substrate. They are flexible and lightweight, making them suitable for a variety of applications, though they generally have lower efficiency.

Technological Advancements

- Recent advancements in silicon PV technology have focused on improving efficiency and reducing costs.
- For instance, the development of **Passivated Emitter and Rear Cell (PERC)** technology has significantly enhanced the performance of silicon cells.
- Additionally, innovations like bifacial cells, which capture sunlight from both sides, and the use of perovskite-silicon tandem cells are pushing the boundaries of efficiency.

Applications and Benefits

- **Renewable Energy Source:** Solar power is a clean and inexhaustible energy source.
- **Reduced Carbon Footprint:** Using solar energy reduces greenhouse gas emissions.
- **Energy Independence:** Solar power can reduce dependence on fossil fuels and enhance energy security.

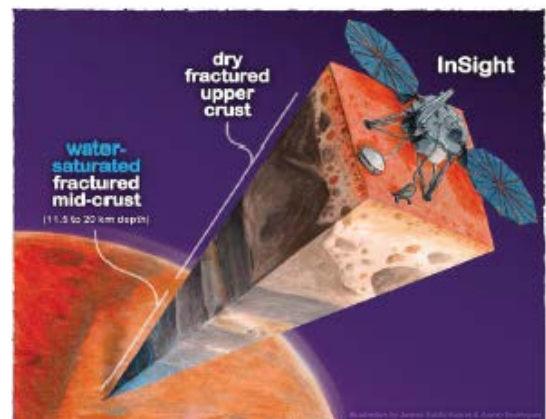
NASA'S MARS INSIGHT LANDER

Context

- Recently, an analysis of seismic data collected by NASA's Mars InSight Lander showed that Mars has vast oceans of water, but located 11.5 km below its crust.

About the NASA's Mars InSight Lander

- InSight (Interior Exploration using Seismic Investigations, Geodesy, and Heat Transport) was a groundbreaking mission **designed to study the deep interior of Mars**.



- The **primary goal** of the InSight mission was to understand the formation and evolution of terrestrial planets by examining Mars’ interior structure.
- The lander was equipped with a suite of scientific instruments, including a highly **sensitive seismometer (SEIS)** and a **heat flow probe (HP3)** which allowed scientists to measure Mars’ seismic activity, heat flow, and rotational dynamics.
- InSight’s design was based on the proven technology of **NASA’s Phoenix lander**.

Key Achievements

- Detection of over 1,300 marsquakes that provide invaluable data about the Martian crust, mantle, and core, revealing that Mars is seismically active.
- The mission detected meteoroid impacts, which helped scientists determine the age of the planet’s surface.

Mars

- It is the fourth planet from the Sun and is a cold desert world. It is nearly half the size of Earth.
- It is sometimes called the **Red Planet**, because of **rusty iron in the ground**.
 - It has **lower gravity (about one-third that of Earth)** but its atmosphere is just 1% as thick, making it much harder to generate lift.
- It is a dynamic planet with **seasons, polar ice caps, canyons, extinct volcanoes**, and evidence that it was even more active in the past.
- It has a very thin atmosphere made of **carbon dioxide, nitrogen, and argon**.

BROWN BEARS

Context

- Recently, **Sweden** planned to kill hundreds of brown bears as part of its controversial licensed trophy hunting season, and to bring down bear

population close to **‘favourable reference population’**.

About the Brown Bears (Ursus Arctos)

- Brown bears inhabit diverse regions across **Eurasia and North America** (notably Alaska and Canada). They occupy a variety of habitats, including forests, tundra, and mountainous regions.
- Brown bears are **omnivorous**, with a diet that includes plants, berries, insects, fish, and small to large mammals.
- They are known for their intelligence and have been observed using tools, a trait that highlights their **cognitive abilities**.

Conservation Status (IUCN Status)

- Brown Bear: Least Concern
- Himalayan Brown Bear: Critically Endangered

GLACIAL LAKE OUTBURST FLOODS (GLOFs)

Context

- Recently, the Union Government sanctioned a Rs 150 crore programme to mitigate the risk of GLOFs through technical hazard assessments and installation of automated monitoring and early warning systems in Himalayan states.

About the Glacial Lake Outburst Floods (GLOFs)

- These are sudden releases of water from glacial lakes, often caused by the failure of natural dams formed by moraines or ice.
- These events can lead to catastrophic flooding downstream, posing significant risks to life, infrastructure, and ecosystems.

Formation and Causes

- GLOFs typically **occur in regions with retreating glaciers**, such as the Himalayas. As glaciers melt due to rising global temperatures, water accumulates in lakes behind natural dams.
- These dams, often composed of loose moraine material, can be unstable and prone to sudden breaches.

Factors contributing to GLOFs

- **Glacial Retreat:** Accelerated melting of glaciers increases the volume of water in glacial lakes.
- **Seismic Activity:** Earthquakes can destabilise moraine dams.
- **Heavy Rainfall:** Intense precipitation can raise water levels, increasing pressure on the dam.
- **Ice Avalanches:** Falling ice can displace large volumes of water, triggering a breach.

E-CHASA

Context

- Recently, **Odisha** has launched **e-Chasa**, a mobile application and portal to conduct digital crop surveys across the state.

About the e-Chasa

- It is designed to conduct digital crop surveys, providing farmers with a comprehensive, single-window access to crop-related data and information, regardless of weather conditions.
- It aims to **deliver technology-driven agricultural services** to approximately 48 lakh farmers across the state.
- It represents a significant advancement in agriculture, offering precise data on crops grown in remote and inaccessible hilly areas.

Comprehensive Coverage

- The digital crop survey was **initially piloted** in a few districts in 2023, successfully surveying about 30 lakh plots.
- Following this success, the project has been **expanded to cover the entire state**, encompassing approximately 3 crore agricultural plots across 48 lakh hectares of farmland.

SALVINIA MOLESTA (CHINESE JHALAAR)

Context

- In a remarkable breakthrough in **biological control**, foreign insects have emerged as

effective allies in the fight against invasive aquatic weeds.

About

- **Salvinia Molesta**, commonly known as ‘Chinese Jhalaar’ in India, is an **invasive aquatic fern** that poses a significant threat to water ecosystems.
- Under high-nitrogen levels and a temperature of 30°C, the plant area can double every eight days and biomass every 2.2 days, forming mats up to 1 m deep spread across waterways.
- It thus impedes water transport and hydro-electricity generation, blocks irrigation channels and depletes the waterbody of oxygen and nutrients, resulting in death of fish and other organisms.
- Traditional methods of weed control, such as manual removal and chemical treatments, have proven to be costly and often ineffective in the long term.

Biological Control with Exotic Insects

- In a pioneering effort, scientists from ICAR - Directorate of Weed Research (DWR) introduced an **exotic beetle, Cyrtobagus Salviniae**, into the **Sarani reservoir in Betul district, Madhya Pradesh**.
- This beetle, **native to Brazil**, specifically targets *Salvinia molesta* and has been used successfully in other parts of the world for **biological control**.
 - Biological control is a smarter way to weed out invasive plants, with minimal impact on biodiversity

DHANGAR COMMUNITY

Context

- Recently, the Dhangar community of Maharashtra held a demonstration to demand for designated grazing lands in forests.

About the Dhangars

- They are a community of shepherds with a rich cultural heritage, and reside in **Maharashtra, Gujarat, Karnataka, and Andhra Pradesh**.

- Historically, Dhangars have followed specific routes for grazing their animals. These routes are deeply ingrained in their way of life, and they've herded their flocks along them since time immemorial.
 - These paths are not just about sustenance; they're part of their cultural identity.
- **Quest for Scheduled Tribe (ST) Status:** The Dhangars are currently listed under **Maharashtra's Vimukta Jati and Nomadic Tribes (VJNT) category.**
 - However, they've been persistently seeking Scheduled Tribe (ST) status for decades.
 - Interestingly, in other parts of the country, they are recognized as "Dhangad" and enjoy reservation benefits as an ST community.

Subjective Questions

1. What do you believe are the most effective strategies to reduce the impact of single-use plastic on our environment, considering both individual actions and government policies?
2. How has the rising incidence of cancer in India impacted its healthcare system, socioeconomic conditions, and overall quality of life?
3. Despite the ambitious goals of the PM-KUSUM Yojana, its implementation has been relatively slow. What are the key factors hindering the participation of farmers in the scheme?
4. How can we balance the global demand for food and nutrition with the urgent need to mitigate climate change, and what are the ethical implications of prioritising one over the other?
5. To what extent are human activities responsible for the increasing frequency and severity of Glacial Lake Outburst Floods (GLOFs)? Discuss with reference to specific case studies from India.

MCQs

1. Which one of the following is associated with the 'NASA's InSight Lander'?
 - (a) Moon Surface
 - (b) Mars Atmosphere
 - (c) Venus Crater
 - (d) Sun's Lagrange Point
2. Recently, 'e-Chasa, a mobile application and portal' was in news, is in the context of:
 - (a) Vocational Training
 - (b) Diagnosis of Mpox
 - (c) Crop Survey
 - (d) Monitoring Tuberculosis
3. With reference to 'Mpox disease', consider the following statements:
 1. It is a viral illness caused by a member of the Orthopoxvirus Genus, closely related to the viruses that cause smallpox and cowpox.
 2. It was first identified in humans in the Democratic Republic of the Congo (DRC).
 Which of the statements given above is/are correct?
 - (a) 1 only
 - (b) 2 only
 - (c) Both 1 and 2
 - (d) Neither 1 nor 2
4. The term 'Salvinia Molesta' sometimes appeared in the news, is related to:
 - (a) Soil fungus
 - (b) Infestans fungus
 - (c) Wheat blast
 - (d) Invasive aquatic fern
5. Recently, the Dhangar community held a demonstration to demand for designated grazing lands in forests, belonging to which of the following states of India?
 - (a) Maharashtra
 - (b) Odisha
 - (c) Uttarakhand
 - (d) Rajasthan

Answer Key: _____

1. (b) 2. (c) 3. (c) 4. (d) 5. (a)