



Amul a Pillar of India's Dairy Sector

For Prelims: Anand Pattern, White Revolution, National Dairy Development Board (NDDB), [World Food Programme](#), [Rashtriya Gokul Mission](#), [National Livestock Mission](#)

For Mains: Role of dairy and livestock sector in Indian economy, Related issues and Initiatives taken to promote the sector.

Source: [PIB](#)

Why in News?

The Prime Minister participated in the Golden Jubilee celebration of the **Gujarat Cooperative Milk Marketing Federation (GCMMF)** and highlighted the success of **Anand Milk Union Limited (Amul)** which comes from GCMMF.

What is the History of Amul?

- Amul was established in 1946 as the Kaira District Co-operative Milk Producers' Union Limited in Anand, Gujarat.
- It was founded by **Tribhuvandas Patel**, with the support of [Morarji Desai](#) and [Sardar Vallabhbhai Patel](#).
- In 1950, Amul (Anand Milk Union Limited) was formed as a brand for the dairy products produced by the cooperative.
- Amul is managed by the GCMMF, which is jointly owned by more than **3.6 million milk producers in Gujarat**.
- Amul pioneered the **adoption of the Anand Pattern**, an economic organisational model designed to **empower small producers through collective action**.
 - This approach fosters integration among producers, enabling economies of scale while **preserving individual autonomy in decision-making**.
- Amul's success story garnered international attention, becoming a case study in cooperative economics and rural development.
- Amul played a pivotal role in **India's White Revolution**, which aimed to increase milk production and make India self-sufficient in milk.
 - Amul spearheaded the White Revolution in India, starting with the introduction of **milk powder manufacturing** in 1955.
- Amul products are now exported to over 50 countries, with a network of over 18,000 milk cooperative committees and over 36,000 farmers. Processing over 3.5 crore litres of milk daily, Amul also facilitates online payments exceeding Rs 200 crores to livestock breeders.

What is India's White Revolution or Operation Flood?

- **Background:**
 - The **National Dairy Development Board (NDDB)**, chaired by [Vergheese Kurien](#) ('**Father of White Revolution in India**'), was established in 1965 to revolutionize India's dairy industry. Inspired by the successful "**Anand Pattern**", NDDB launched the **White**

Revolution, also known as Operation Flood in 1970, connecting rural milk producers with urban consumers through dairy cooperatives.

- This initiative transformed **India into the world's largest milk producer**, significantly boosting milk production and improving its management efficiency.
- Operation Flood transformed the **dairy-deficient nation into the global leader in milk production**.
- The nationwide **Operation Flood unfolded in three phases** over three decades.
- **Phases of Operation Flood:**
 - **Phase I (1970-1980):**
 - Financed by the sale of skimmed milk powder and butter oil gifted by the **European Union** (then European Economic Community) through the [World Food Programme](#).
 - Operation Flood linked 18 milksheds with consumers in major metropolitan cities.
 - Initiated the foundation of a self-sustaining system of village cooperatives.
 - **Phase II (1981-1985):**
 - Increased milksheds from 18 to 136 and expanded outlets to 290 urban markets.
 - Established a self-sustaining system of 43,000 village cooperatives, covering 4.25 million milk producers.
 - Significantly increased domestic milk powder production, promoting self-reliance.
 - **Phase III (1985-1996):**
 - Enabled dairy cooperatives to expand and strengthen infrastructure for procuring and marketing milk.
 - Emphasised veterinary healthcare services, feed, and artificial insemination.
 - Added 30,000 new dairy cooperatives and peaked milksheds to 173 in 1988-89.
- **Post-Operation Flood:**
 - In 1991, India underwent [liberalisation, privatisation and globalisation reforms](#), allowing for private participation in various sectors, including dairy.
 - **Foreign equity of up to 51% was allowed in milk products**, except for malted products.
 - The initial phase saw the proliferation of unregulated dairies, leading to concerns of adulterated and contaminated milk.
 - The **Milk and Milk Products Order (MMPO)** was instituted in 1992 to regulate the sector and introduce oversight.
 - MMPO is a regulatory order of the Government of India that regulates the production, supply, and distribution of milk and milk products. The MMPO was promulgated under the provisions of the [Essential Commodities Act, 1955](#).
 - The order's objective is to maintain and increase the supply of milk and milk products.
 - The industry witnessed significant growth in processing capacity, primarily driven by large private players.
- **Current Milk Production:**
 - India is the **highest milk producer** i.e., ranks first position in the world contributing twenty-four percent of global milk production in the year 2021-22.
 - In the last 10 years, milk production increased by almost 60% and per capita milk availability has increased by about 40%.
 - The top 5 milk-producing states are Rajasthan, Uttar Pradesh, Madhya Pradesh, Gujarat and Andhra Pradesh.
 - The Indian dairy sector is growing by 6% per year as compared to the global average of 2%.
 - India's Export of Dairy products was 67,572.99 Metric Ton (MT) to the world worth USD 284.65 Mn during the year 2022-23.

What are the Initiatives Related to the Dairy Sector?

- [Animal Husbandry Infrastructure Development Fund \(AHIDF\)](#).
- [National Programme for Dairy Development](#).
- [Pradhan Mantri Kisan Sampada Yojana](#)
- [Kisan Credit Cards \(KCC\) to Livestock Farmers](#)
- [Rashtriya Gokul Mission](#)

▪ [National Livestock Mission](#)

What are the Challenges Faced by the Indian Dairy Sector?

- **Low Milk Yield:**
 - **Milk yield per animal** in India is significantly **lower than the global average**. This can be attributed to factors like poor quality feed and fodder, traditional cattle breeds, and lack of proper veterinary care.
- **Issues in Milk Collection and Processing:**
 - Challenges in **collection, pasteurization, and transportation** of milk pose significant hurdles, particularly in ensuring safe milk handling in informal dairy setups.
- **Adulteration Concerns:**
 - **Adulteration of milk remains a persistent** issue due to difficulties in quality control.
- **Profit Disparities:**
 - Milk producers often receive **low purchase prices** compared to market rates, leading to disparities in profit distribution within the value chain.
- **Cattle Health Challenges:**
 - Frequent **outbreaks of diseases** like [Foot and Mouth Disease](#), Black Quarter infection, and Influenza significantly impact livestock health and lower productivity.
- **Limited Crossbreeding Success:**
 - Crossbreeding indigenous species with exotic stocks to improve genetic potential has **achieved limited success**.

Way Forward

- **Strengthening veterinary care**, promoting quality feed and fodder, and implementing robust quality control measures are essential to **address productivity and health challenges**.
- Enhancing infrastructure for milk collection, processing, and transportation will help streamline operations and ensure safe milk handling.
- Emphasizing research and development in genetics, nutrition, and disease management will be crucial for enhancing milk yield and animal health.
- Promoting **farmer cooperatives and incentivizing sustainable** practices can empower small-scale producers and ensure equitable growth across the dairy value chain.

UPSC Civil Services Examination, Previous Year Question (PYQ)

Prelims

Q.1 Consider the following crops of India: (2012)

1. Cowpea
2. Green gram
3. Pigeon pea

Which of the above is/are used as pulse, fodder and green manure?

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

Ans: (a)

Mains

Q.1 Livestock rearing has a big potential for providing non-farm employment and income in rural areas. Discuss suggesting suitable measures to promote this sector in India. **(2015)**

Q.2 The concept of cooperative federalism has been increasingly emphasized in recent years. Highlight the drawbacks in the existing structure and the extent to which cooperative federalism would answer the shortcomings. (2015)

INS Jatayu in the Lakshadweep Islands

[Source: TH](#)

Why in News?

The commissioning of INS Jatayu, an upgraded naval base in the [Lakshadweep Islands](#), marks a significant development in [India's maritime security strategy](#), particularly in the context of growing [Chinese influence in the Indian Ocean Region](#).

- Additionally, the Indian Navy commissioned its **first MH-60R multi-role helicopter squadron Indian Naval Air Squadron (INAS) 334** at Kochi, a major capability boost for its rotary fleet and its anti-submarine warfare capabilities.

What are the Key Highlights of INS Jatayu?

- INS Jatayu, formerly **Naval Detachment Minicoy**, is commissioned as an upgraded naval base on Minicoy Island in the Lakshadweep archipelago.
 - It will operate under the operational control of the Naval Officer in Charge (Lakshadweep), Southern Naval Command.
- The base enhances the operational reach of the **Indian Navy** in the Indian Ocean, bolstering its capabilities for [anti-piracy](#), [anti-narcotics](#), and [surveillance operations](#).
 - Situated in Minicoy, the southernmost atoll of the Lakshadweep archipelago, INS Jatayu strategically overlooks vital [Sea Lines of Communications \(SLOCs\)](#), strengthening India's maritime presence in the region.
- In light of China's increasing presence in the Indian Ocean, INS Jatayu reinforces **India's ability to counterbalance and deter any attempts** to undermine its maritime dominance and territorial integrity.
- INS Jatayu will effectively be the **country's second naval base in Lakshadweep**. The Navy's first base on the islands, **INS Dweep** in Kavaratti, was commissioned in 2012.
- INS Jatayu will be equipped with additional infrastructure, including an airfield and personnel housing, to support naval operations and ensure comprehensive security coverage.
- Minicoy Island, where INS Jatayu is located, sits at the **intersection of crucial Sea Lines of Communications (SLOCs)** like the [Eight Degree Channel](#) and the **Nine Degree Channel**, making it susceptible to maritime pollution due to heavy maritime traffic.
 - Eight Degree Channel separates **Indian Minicoy island from Maldives**.
 - The Nine Degree Channel separates the **island of Minicoy from the Lakshadweep archipelago**.

The Lakshadweep Islands

- India's smallest Union Territory, Lakshadweep ('a hundred thousand islands' in Sanskrit and Malayalam) is an archipelago consisting of **36 islands located between 220 km and 440 km from Kochi**.
- The islands, only 11 of which are inhabited, have a total area of only 32 sq km. It is directly under the control of the Centre through an administrator.
- The Lakshadweep is part of a **chain of coralline islands in the Indian Ocean that includes the Maldives to the south**, and the **Chagos archipelago farther beyond, to the south of**

the equator.

What are the Key Highlights of the INAS 334 Squadron?

- The Indian Naval Air Squadron (INAS) 334 is the first squadron of the **MH-60R helicopters**, also known as the "**Seahawks**". The squadron was commissioned at INS Garuda, Kochi.
- The squadron is a part of the 24-aircraft Foreign Military Sales (FMS) contract signed with the **United States government** in February 2020.
- The MH 60R Seahawk, a maritime variant of the Blackhawk helicopter, is designed for various roles including:
 - Anti-submarine warfare, Anti-surface warfare, Search and rescue , Medical evacuation and Vertical replenishment.
- Deployment of Seahawks in the Indian Ocean Region (IOR) strengthens the Indian Navy's maritime presence, dissuading potential threats and ensuring a secure environment in this strategically crucial region.

Commands of Indian Navy:

It has **three operational and one theatre commands**. Each command is headed by a Flag Officer Commanding-in-Chief holding the rank of Vice Admiral.

Command	Establishment	Headquarters	Area of Responsibility
Western Naval Command	1963	Mumbai	Arabian Sea, coastline Gujarat to Maharashtra, including Goa, Lakshadweep and Minicoy Islands
Eastern Naval Command	1971	Visakhapatnam	Bay of Bengal, coastline of Odisha, Andhra Pradesh, and Tamil Nadu
Southern Naval Command	1951	Kochi	Indian Ocean, the coastline of Kerala, Karnataka, and Lakshadweep and Minicoy Islands

- **Andaman and Nicobar Command, 2001:** It is a **unified tri-services theatre command** based at Port Blair, A&N Islands.
 - It includes the **Indian Navy, Indian Army, Indian Air Force and Indian Coast Guard.**

UPSC Civil Services Examination, Previous Year Questions (PYQs)

Prelims

Q. Which one of the following pairs of islands is separated from each other by the 'Ten Degree Channel'? (2014)

- (a) Andaman and Nicobar
- (b) Nicobar and Sumatra

- (c) Maldives and Lakshadweep
(d) Sumatra and Java

Ans: (a)

Q2. Which one of the following is the best description of 'INS Astradharini', that was in the news recently? (2016)

- (a) Amphibious warfare ship
(b) Nuclear-powered submarine
(c) Torpedo launch and recovery vessel
(d) Nuclear-powered aircraft carrier

Ans: (c)

Q3. Consider the following in respect of Indian Ocean Naval Symposium (IONS): (2017)

1. Inaugural IONS was held in India in 2015 under the chairmanship of the Indian Navy.
2. IONS is a voluntary initiative that seeks to increase maritime co-operation among navies of the littoral states of the Indian Ocean Region.

Which of the above statements is/are correct?

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

Ans: (b)

Exp:

- The 'Indian Ocean Naval Symposium' (IONS) is a voluntary initiative that seeks to increase maritime cooperation among navies of the littoral States of the Indian Ocean Region by providing an open and inclusive forum for discussion of regionally relevant maritime issues. **Hence, statement 2 is correct.**
- It provides a forum to increase maritime security cooperation, and promote friendly relationships among the member nations.
- The inaugural IONS-2008 was held in New Delhi, India in February, 2008. The Chief of the Naval Staff, Indian Navy was designated as the Chairman of IONS for the period 2008-10. **Hence, statement 1 is not correct. Therefore, option (b) is the correct answer.**

Mains

Q. What do you understand by 'The String of Pearls'? How does it impact India? Briefly outline the steps taken by India to counter this. **(2013)**

Q. Discuss the political developments in the Maldives in the last two years. Should they be of any cause for concern to India? **(2013)**

Chakshu and the Digital Intelligence Platform

[Source: TH](#)

The [Department of Telecommunications \(DoT\)](#) introduced two initiatives, **Chakshu** and the **Digital Intelligence Platform (DIP)**, to combat spam and fraud calls through the [Sanchar Saathi portal](#).

- Chakshu (meaning eyes) is accessible at sancharsaathi.gov.in/sfc, facilitating citizens to report suspicious communications.
 - The platform allows users to **report various types of fraud**, including those related to bank accounts, payment wallets, SIM cards, gas and electricity connections, KYC updates, impersonation, and sextortion.
- The primary objective of Chakshu is to **enable proactive reporting of suspicious activities**, contributing to the prevention and mitigation of **telecom-related fraud and spam calls**.
 - [Telecom Regulatory Authority of India \(TRAI\)](#) is working on developing an app for the Chakshu platform, further streamlining the reporting process for users.
- The DIP is a secure and integrated platform created by the **DoT for curbing the misuse of telecom resources** and data through intelligence sharing and information exchange among the stakeholders covering a wide spectrum of telecom service providers, law enforcement agencies (LEAs), banks and financial institutions.
 - It would be a **non-public data-sharing resource** for “Telecom Service Providers (TSPs), LEAs, banks and financial institutions, social media platforms, identity document issuing authorities etc.

Read more: [World Telecom Day 2023](#)

Amendments to the Electricity (Rights of Consumers) Rules, 2020

[Source: PIB](#)

Why in News?

Recently, the Ministry of Power has notified amendments to the [Electricity \(Rights of Consumers\) Rules, 2020](#), to accelerate the installation of [Rooftop Solar Projects](#) and empower consumers - with provisions on connections in residential societies and solving complaints on meter readings.

What are the Major Amendments in Electricity Rules, 2020?

- **Easier and Faster installation of Rooftop Solar Systems:**
 - Exemption has been given for the requirement of technical feasibility study, for systems up to a capacity of 10 kW.
 - For systems of **capacity higher than 10 kW**, the timeline for completing the feasibility study has been reduced from **20 to 15 days**.
 - **A technical feasibility study** typically involves assessing factors such as site suitability, structural integrity of the building, available sunlight exposure, electrical infrastructure compatibility, and potential obstacles or challenges that may affect the **installation and operation of the solar panels**.
 - It is mandated that the distribution system strengthening necessary for rooftop solar PV systems up to 5 kW capacity will be done by the **distribution company at its own cost**.
 - Further, the timeline for the distribution licensee to commission [Rooftop Solar PV](#) systems has been reduced from **30 to 15 days**.
- **Separate Connections for Electric Vehicle Charging Stations:**
 - Consumers can obtain separate electricity connections for charging their [Electric Vehicles \(EVs\)](#).
 - This aligns with India's goal of reducing carbon emissions and reaching [Net Zero](#)

by the year 2070.

- The time period for obtaining a new electricity connection has been reduced from **7 to 3 days** in metropolitan areas, from **15 to 7 days in other municipal areas**, and from **30 to 15 days in rural areas**.
 - However, **in rural areas with hilly terrain**, the time period for new connections or for modifications in **existing connections will remain thirty days**.
- **Additional Rights for Consumers in Residential Colonies and Flats:**
 - Owners residing in co-operative group housing societies, multi-storied buildings, residential colonies, etc., will have the option to choose from the distribution licensee either individual connections for everyone or a **single-point connection for the whole premises**.
 - The exercise of the option will be based on a **transparent ballot to be conducted by the Distribution Company**.
 - Parity has also been brought in the tariff charged to consumers who get electricity supplied through single-point connection and to those who avail of individual connections.
 - Metering, billing, and collection **will be done separately for:**
 - Individual electricity consumption sourced from the distribution licensee
 - Individual consumption of backup power supplied by the residential association
 - Electricity consumption for common areas of such residential associations, which is sourced from the distribution licensee.
- **Mandatory Additional Meter in cases of Complaints:**
 - In cases where **consumers raise complaints about meter reading** not aligning with their actual electricity consumption, the distribution licensee is now required to install **an additional meter within five days** from the date of receipt of the complaint.
 - This **additional meter will be used to verify the consumption** for a minimum period of three months, thus reassuring consumers and ensuring accuracy in billing.

What are the Other Government Initiatives for Solar Energy?

- [National Solar Mission](#)
- [Solar Park Scheme](#)
- [Kisan Urja Suraksha evam Utthaan Mahabhiyan \(PM-KUSUM\)](#)
- [International Solar Alliance](#)
- [Pradhan Mantri Suryodaya Yojana](#)

UPSC Civil Services Examination Previous Year Question (PYQ)

Prelims:

Q. Consider the following statements: (2016)

1. The International Solar Alliance was launched at the United Nations Climate Change Conference in 2015.
2. The Alliance includes all the member countries of the United Nations.

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

Ans: (a)

Mains:

Q. India has immense potential of solar energy though there are regional variations in its developments. Elaborate. (2020)

The Unjust Climate: FAO

For Prelims: The Unjust Climate: FAO, [Food and Agriculture Organization](#), [Climate Change](#), [Extreme Precipitation](#), [Heat Stress](#).

For Mains: The Unjust Climate: FAO, Impact of Climate Change on Agriculture and Food Security.

Source: [DTE](#)

Why in News?

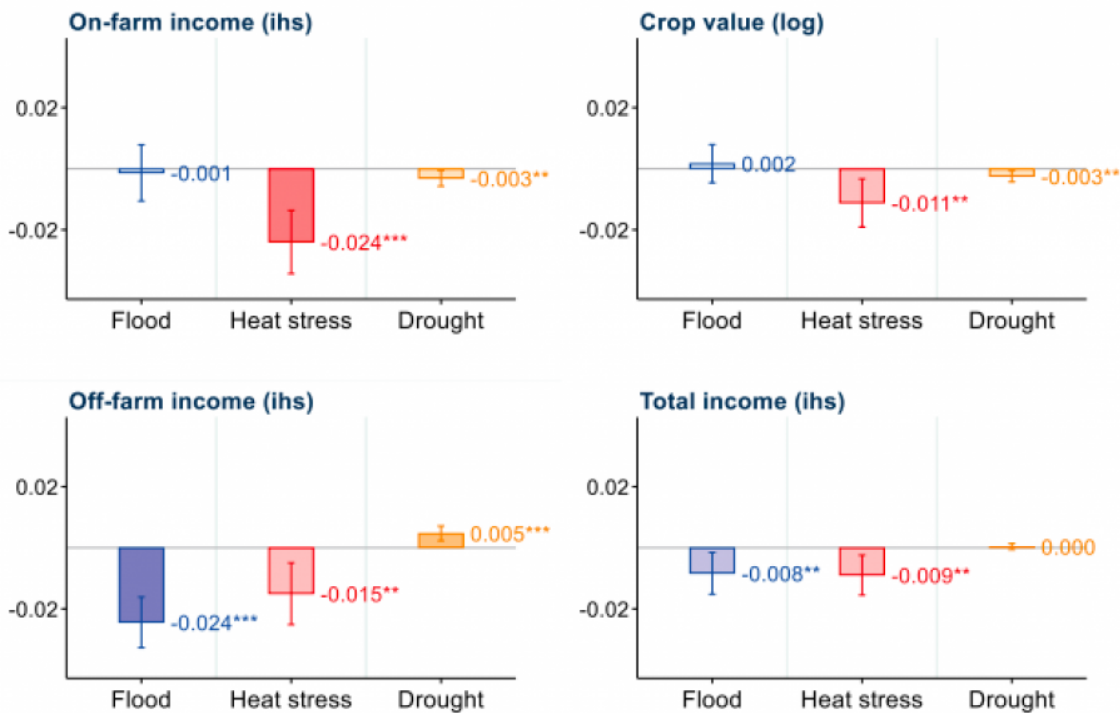
Recently, the [Food and Agriculture Organization of the United Nations \(FAO\)](#), has released a report titled- **The Unjust Climate**, shows how the effects of [Climate Change](#) on income and adaptation in rural areas vary with gender, wealth and age.

- FAO analyzed **socioeconomic data from over 100,000 rural households** representing more than 950 million people across 24 **LMICs (Lower Middle Income Countries)**.
- The study integrated this information with **70 years of georeferenced daily precipitation and temperature data** to examine the impacts of climate stressors on incomes, labour, and adaptation strategies, differentiating based on wealth, gender, and age.

What are the Key Findings of the Report?

- **Impact of Extreme Weather on Poor Rural Households:**
 - Every day of extreme heat results in **poor rural households losing 2.4% of on-farm incomes**, 1.1% of crop value, and 1.5% of off-farm income compared to non-poor households across India and 23 other LMICs (Lower Middle Income Countries).
 - A 1°C increase in long-term temperatures would **push rural poor households to rely more on climate-dependent agriculture**, leading to a **33% decrease in off-farm incomes**.
 - Similarly, every day of **extreme Precipitation** causes poor households to lose 0.8% of their incomes **relative to non-poor households**, mainly driven by **losses in off-farm incomes**.

Extreme weather events significantly reduce the incomes of the poor relative to the non-poor



Income Inequality Widening Due to Climate Stressors:

- In an average year, poor households **lose 5% of their total income** due to **Heat Stress** and **4.4% due to floods** compared to better-off households.
- **Floods** and heat stress widen the income gap between poor and non-poor households in rural areas by approximately USD 21 billion and USD 20 billion a year, respectively.

Maladaptive Coping Strategies:

- Extreme weather events **push poor rural households to adopt maladaptive coping strategies**, including distress sale of livestock and redirecting expenditures away from their farms.
- Poor households **reduce their investments in agriculture relative to non-poor households** when faced with floods and droughts, as they redirect their scarce resources away from agricultural production **towards immediate consumption needs**.
- These maladaptive **coping strategies are likely to make them more vulnerable** to future climate stressors than non-poor rural households.

Inadequate Inclusion in National Climate Policies:

- Rural people and their climate vulnerabilities are largely absent in national climate policies.
- Less than 1% of **Nationally Determined Contributions (NDC)** and national adaptation plans (NAP) of the 24 analysed countries mention poor people, and only about 6% **refer to farmers in rural communities**.
- **Only 7.5% of tracked climate finance** in 2017-18 went towards climate change adaptation, with less than **3% allocated to agriculture**, forestry, and other land uses.
- **Agricultural policies also miss** the opportunity to address gender equality and women's empowerment and intersecting vulnerabilities such as climate change.
 - An analysis of agricultural policies from 68 low- and middle-income countries done by FAO in 2023 showed that about **80% of policies did not consider women and climate change**.

Measuring climate stressors

■ Floods

The number of extreme precipitation days. Extreme precipitation occurs when precipitation exceeds the 95th percentile of daily precipitation.

■ Heat stress

The number of extreme temperature days. Extreme temperature occurs when the maximum temperature exceeds the 99th percentile of daily maximum temperatures.

■ Drought

The number of days exceeding an extreme dry spell. An extreme dry spell is an event with a length that exceeds the 95th percentile of consecutive dry days.

■ Climate change

Long-term change in average temperature between two periods of time: 1951–1980 and the 30 years prior to the survey.

What are the Recommendations of the Report?

- It is suggested that addressing these challenges **requires targeted interventions to empower various rural populations** to engage in climate-adaptive measures.
- It is imperative to invest in **policies and programmes that address the multidimensional climate vulnerabilities** of rural people and their specific constraints, including their limited access to productive resources.
- It is recommended to link **social protection programmes to advisory services** that can encourage adaptation and compensate farmers for losers, such as cash-based social assistance

programs.

- Gender-transformative methodologies that directly challenge discriminatory gender norms, **could also tackle the entrenched discrimination** that often prevents women from exercising full agency over economic decisions that impact their lives.

What are the FAO's Initiatives to Tackle the Impact of Climate Change?

- Inclusive climate actions are embedded in **FAO's Strategy and Action Plan on Climate Change** and in the **FAO Strategic Framework 2022-2031**, where tackling the impact of climate change is mainstreamed in efforts to achieve the four betters: better production, better nutrition, better environment and better life for all.
- **FAO's Global Roadmap for Achieving [SDG \(Sustainable Development Goal\) 2](#)** without breaching the 1.5 °C threshold, establishes that gender inequalities, climate actions and nutrition are simultaneous considerations, and actions must encompass these dimensions and promote inclusivity for women, youth and Indigenous Peoples.

What is the Food and Agriculture Organization?

▪ About:

- FAO is a specialised agency of the [United Nations](#) that leads international efforts to defeat hunger.
 - **World Food Day** is celebrated every year around the world on 16th October. The day is celebrated to mark the anniversary of the founding of the FAO in 1945.
- It is one of the UN food aid organisations based in Rome (Italy). Its sister bodies are the [World Food Programme](#) and the **International Fund for Agricultural Development (IFAD)**.

▪ Initiatives Taken:

- [Globally Important Agricultural Heritage Systems \(GIAHS\)](#).
- Monitors the [Desert Locust](#) situation throughout the world.
- The [Codex Alimentarius Commission \(CAC\)](#) is the body responsible for all matters regarding the implementation of the Joint FAO/WHO Food Standards Programme.
- The [International Treaty on Plant Genetic Resources for Food and Agriculture](#) was adopted by the Thirty-First Session of the Conference of the FAO in 2001.

▪ Flagship Publications:

- The State of World Fisheries and Aquaculture (SOFIA).
- The State of the World's Forests (SOFO).
- [The State of Food Security and Nutrition in the World \(SOFI\)](#).
- The State of Food and Agriculture (SOFA).
- The State of Agricultural Commodity Markets (SOCO).

UPSC Civil Services Examination Previous Year Question (PYQ)

Prelims:

Q. The FAO accords the status of 'Globally Important Agricultural Heritage System (GIAHS)' to traditional agricultural systems. What is the overall goal of this initiative? (2016)

1. To provide modern technology, training in modern farming methods and financial support to local communities of identified GIAHS so as to greatly enhance their agricultural productivity.
2. To identify and safeguard eco-friendly traditional farm practices and their associated landscapes, agricultural biodiversity and knowledge systems of the local communities.
3. To provide Geographical Indication status to all the varieties of agricultural produce in such identified GIAHS.

Select the correct answer using the code given below:

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

Ans: (b)

Mains:

Q.1 The effective management of land and water resources will drastically reduce the human miseries. Explain. (2016)

Claude 3 AI Chatbot

[Source: TH](#)

Why in News?

Recently, the [Artificial Intelligence \(AI\)](#) start-up Anthropic announced its latest family of AI models called **Claude 3**, stating that it “sets new industry benchmarks across a wide range of cognitive tasks”.

- The family **includes three state-of-the-art AI models** in the ascending order of capabilities – Claude 3 Haiku, Claude 3 Sonnet, and Claude 3 Opus.

Note

- Anthropic is an OpenAI rival started by former leaders at the ChatGPT maker.
- While OpenAI has closely tied itself to its business partner Microsoft, Anthropic's primary **cloud computing partner is Amazon.**

What is Claude 3?

- **About Claude:**
 - Claude is a group of **Large Language Models (LLMs)** developed by Anthropic.
 - LLMs are a specific class of [generative AI](#) models that are trained to understand and generate human-like text.
 - The chatbot is capable of **handling text, voice messages, and documents.**
 - The chatbot is **capable of generating faster**, contextual responses compared to its peers.
- **Training:**
 - Claude sources include the **Internet and some licensed datasets** using two **methods, Supervised Learning (SL) and Reinforcement Learning (RL).**
 - In the SL phase, the LLM produces responses to prompts, and then **self-assesses them** based on a set of guiding principles.
 - It later revises the responses — and according to its makers, this process is aimed at **reducing the harmful effects of the AI's outputs.**
 - RL phase involves **training the model based on AI-generated feedback**, in which the

AI evaluates responses based on a set of constitutional principles.

- These methods, and the general approach, has been chosen with the aim of making Claude helpful and harmless.

▪ **Claude 3:**

- Among the new releases, **Claude 3 Opus** is the most powerful model, Claude 3 Sonnet is the **middle model that is capable and price competitive**, and **Claude 3 Haiku is relevant for any use case** that requires instant responses.
 - Claude Sonnet powers the Claude.ai chatbot for free at present and users only need an email sign-in.
 - However, Opus is only available through Anthropic's web chat interface and if a user is subscribed to the Claude Pro service on the Anthropic website.

▪ **Limitations of Claude 3:**

- Claude 3 performs well in tasks such as answering factual questions and optical character recognition (OCR), meaning the ability to extract text from images.
 - Reportedly, the new model is good at following instructions and completing tasks like writing Shakespearean sonnets.
- However, it **struggles with complex reasoning and mathematical problems** at times. It also **exhibited biases in its responses**, such as favouring a certain racial group over others.

Read More: [Large Language Models \(LLMs\)](#), [ChatGPT Chatbot](#), [Ethical Implications of AI](#)

UPSC Civil Services Examination, Previous Year Questions (PYQs)

Prelims

Q. With the present state of development, Artificial Intelligence can effectively do which of the following? (2020)

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

Select the correct answer using the code given below:

- (a) 1, 2, 3 and 5 only
(b) 1, 3 and 4 only
(c) 2, 4 and 5 only
(d) 1, 2, 3, 4 and 5

Ans: (b)

Arctic and Great Lakes Ice Trends

Source: DTE

A recent study forecasts the [Arctic's initial ice-free conditions by August or September of 2030](#), regardless of emission scenarios, with the possibility of recurring occurrences by mid-century (2035–2067).

- In recent years, the Arctic Ocean had around **3.3 million km² of sea ice** at its minimum in September 2023.
 - Arctic sea ice reaches its minimum extent in September every year.



- Concurrently, the **Great Lakes**, comprising **Superior, Michigan, Huron, Erie, and Ontario** have witnessed notably reduced ice cover for 2 consecutive years.
 - They are renowned as Earth's '**freshwater tower**,' and are now witnessing unprecedented declines in ice cover, attributed to **global warming and the El Nino phenomenon**.
 - The year 2023 was designated as the hottest on record, largely influenced by **El Nino**.

THE GREAT LAKES



Read more: [Arctic Region and Melting Aspirations](#), [Great Lakes](#)

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