



DAILY CURRENT AFFAIRS 07-03-2024

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Cavum Clouds

Syllabus: GS-1: Physical Geography – Climatology – Clouds.

Context:

- *NASA satellite captures 'odd holes' in clouds caused by aeroplanes.*

Cavum Clouds: A Hole-y Good Look

- *Cavum clouds, also known as **fallstreak holes** or **hole punch clouds**, are fascinating atmospheric phenomena characterized by a large, circular (or sometimes linear) gap in a thin layer of clouds.*
- *These captivating formations are often the **result of aircraft interaction** with the cloud layer, but can also occur naturally.*



Formation:

- **Supercooled water droplets:** *The key ingredient for cavum formation is the presence of supercooled water droplets in the cloud layer.*
 - *This means the **water droplets exist in a liquid state** even though the temperature is well below freezing (around -30°C to -40°C).*
- **Triggering event:** *The formation of a cavum can be triggered by various factors, the most common being **the passage of an aircraft through the cloud layer.***
 - *As the aircraft wings slice through the supercooled droplets, they cause a **pressure drop due to adiabatic expansion.***
 - *This **sudden change in pressure** leads to the rapid freezing of the surrounding water droplets, creating ice crystals.*
- **Domino effect:** *The newly formed ice crystals act as condensation nuclei, attracting more supercooled water droplets to freeze around them.*
 - *This creates a **chain reaction, rapidly depleting the water content** in the localized area, resulting in the formation of a clear, circular hole.*

Characteristics:

- **Appearance:** *Cavum clouds typically appear as circular or elliptical holes in the cloud layer, sometimes surrounded by a ring of virga (wispy streaks of ice crystals falling from the cloud).*
 - *When viewed from directly beneath, **the hole appears circular**, but from a distance, it can take on an oval shape.*
- **Cloud types:** *Cavum clouds can occur in different types of clouds, most commonly in **altocumulus (mid-level clouds)** and **cirrocumulus (high-level clouds)**, but can also form in stratocumulus (low-level clouds).*
- **Size:** *The size of a cavum can vary, ranging from a few meters to several kilometers in diameter.*

Types of clouds:

Cloud Type	Altitude	Description	Weather Association
<i>Cirrus</i>	<i>High</i>	<i>Wispy, thin clouds composed of ice crystals.</i>	<i>Fair weather</i>
<i>Cumulus</i>	<i>Low</i>	<i>Puffy, white clouds with flat bases, resembling cotton balls.</i>	<i>Fair weather, can develop storms</i>
<i>Stratus</i>	<i>Low</i>	<i>Uniform, gray clouds forming a blanket-like layer in the sky.</i>	<i>Overcast, light precipitation</i>
<i>Cumulonimbus</i>	<i>Vertical</i>	<i>Towering clouds associated with thunderstorms, heavy rain, lightning, and hail.</i>	<i>Severe weather</i>
<i>Alto cumulus</i>	<i>Mid-level</i>	<i>White or gray patches or layers of clouds forming groups.</i>	<i>Weather changes approaching</i>
<i>Strato cumulus</i>	<i>Low to Mid-level</i>	<i>Lumpy clouds covering the sky in large groups.</i>	<i>Light precipitation</i>
<i>Nimbostratus</i>	<i>Low</i>	<i>Thick, dark clouds bringing continuous moderate to heavy precipitation.</i>	<i>Rainy or snowy weather</i>
<i>Cirrostratus</i>	<i>High</i>	<i>Thin, transparent sheets of clouds producing halo phenomena around the sun or moon.</i>	<i>Halo phenomena</i>
<i>Cirrocumulus</i>	<i>High</i>	<i>Small, white patches or ripples of</i>	<i>Fair weather, precede storms</i>

Cloud Type	Altitude	Description	Weather Association
		clouds.	

Acing Development of Innovative Technologies with iDEX (ADITI) scheme

Syllabus: GS-2; Government policies and Interventions

Context

- The **Ministry of Defence (MoD)** has announced the creation of a corpus of ₹750 crore under the Acing Development of Innovative Technologies with iDEX (ADITI) scheme.
- The scheme, launched by Defence Minister Rajnath Singh during **DefConnect 2024** in New Delhi, aims to promote innovations in critical and strategic defence technologies.

Key Objectives of ADITI Scheme

- **Technological Advancement**
 - ADITI aims to develop approximately 30 deep-tech critical and strategic technologies between 2023-24 and 2025-26.
 - It also aims to bridge the gap between the expectations and requirements of the modern Armed Forces and the capabilities of the defence innovation ecosystem through a 'Technology Watch Tool.'
- **Challenges and Opportunities**
 - In its first edition, ADITI has launched 17 challenges across various branches of the armed forces and defence agencies, inviting innovative solutions from start-ups and entrepreneurs.
- **Expansion of iDEX**
 - The scheme marks an expansion of the Innovations for Defence Excellence (iDEX) initiative, with iDEX Prime offering increased assistance from ₹1.5 crore to ₹10 crore to motivate young innovators.
- **Vision of Self-Reliance**

- *Rajnath Singh emphasized the Government's vision of attaining self-reliance in defence production. He stated that the nation cannot remain dependent on the import of weapons/platforms, as it can be fatal for strategic autonomy.*
- **Government's Efforts**
 - *The Defence Minister highlighted the efforts being made by the Government to achieve 'Aatmanirbharta' in defence production, including notifying positive indigenisation lists of major platforms & equipment that are being/will be manufactured in India.*

Support for Start-ups

- *Start-ups under the ADITI scheme are eligible to receive a grant-in-aid of up to ₹25 crore for their research, development, and innovation endeavors in defence technology, said in an official statement.*
- *This initiative is expected to **nurture the innovation of youth and propel the country forward in the field of technology.***

Significance

- *The idea behind the schemes/initiatives such as ADITI, iDEX, iDEX Prime is to also transform India into a knowledge society.*
- *As times are changing, new technologies are coming into existence.*
- *To become a developed country, it is necessary for us to achieve a technological edge.*
- *We have to transform our country into a knowledge society.*

Why Lakshadweep base INS Jatayu matters?

Syllabus: GS-2; International Relations, GS-3; Defence and Security

Context

- *On March 6 2024, **Naval Detachment Minicoy will be commissioned as INS Jatayu**, an upgraded naval base, marking an important milestone in the Indian Navy's resolve to incrementally augment **security infrastructure** at the strategic Lakshadweep Islands.*

Bakground

- *While India has had a naval detachment in Minicoy, the southernmost atoll of the Lakshwadeep archipelago, since the 1980s, 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.*

The Lakshadweep Islands

- *Lakshadweep, 'a **hundred thousand islands**' in Sanskrit and Malayalam, is an archipelago 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.*
- *The Lakshadweep are part of a chain of **coralline islands in the Indian Ocean** that includes Maldives to the south, and the Chagos archipelago farther beyond, to the south of the equator.*
- *Given their location in the Indian Ocean, the Lakshadweep are of huge strategic importance to India.*
- *Minicoy straddles vital **Sea Lines of Communications (SLOCs)** — the world's main maritime highways — including the **Eight Degree Channel** (between Minicoy and Maldives) and the **Nine Degree Channel** (between Minicoy and the main cluster of Lakshadweep islands).*
- *In consequence, the Lakshadweep Islands are also vulnerable to **marine pollution**.*

INS Jatayu naval base

- *The existing Naval Detachment Minicoy, which is under the operational command of the Naval Officer-in-Charge (Lakshadweep), will be commissioned as INS Jatayu.*
- *A naval detachment has **administrative, logistics, and medical facilities**.*
- *INS Jatayu will be upgraded to a naval base with **additional infrastructure** such as an airfield, housing, and personnel, after obtaining the requisite environmental and other clearances.*

Challenges

- *Sources said the **fragile ecology** of the island may pose challenges for the construction of a jetty.*
- *But there are plans to construct a new airfield that will be capable of operating both military and civil aircraft.*



Teeth to Navy operations

- *As per the Navy, the basing of an independent naval unit with requisite infrastructure and resources will **enhance its overall operational capability in the islands.***
- *The establishment of the base is in line with the government's focus on **comprehensive development** of the islands.*
- *The base will enhance its operational reach, facilitate its **anti-piracy and anti-narcotics operations** in the western Arabian Sea, and augment its capability as the first responder in the region.*

Significance

- *With the commissioning of INS Jatayu, the Indian Navy will add to its strength on the western seaboard.*
- *The proposed airfield will allow operations for a range of aircraft, including P8I maritime reconnaissance aircraft and fighter jets, and extend the Navy's reach and operational surveillance capabilities at a time when India is seeking to counter the growing Chinese influence in the Indian Ocean Region.*
- *This has an immediate bearing at a time when India's relations with the Maldives have come under strain since the election of the pro-China President Mohamed Muizzu.*

Green jobs and the problem of gender disparity

Syllabus: GS-3: Indian Economy – Gender disparity in employment.

Context:

- *Recently, The Hindu Newspaper published an article on 'Green jobs and the problem of gender disparity'.*

Potential for Green Jobs in India:

- *Transition to low-carbon development can create **approximately 35 million green jobs by 2047.***
- *Green jobs defined by the International Labour Organization as "**decent jobs that contribute to preservation or restoration of the environment.**"*
- *Various sectors involved including manufacturing, construction, renewable energy, energy efficiency, and automobiles.*

Gender Disparities in Green Jobs:

- *Globally, **men are more likely to transition to green jobs faster than women.***
- *Women's representation remains low in sectors like renewable energy, **with only 11% of workers in the solar rooftop sector being women.***
- *Women are predominantly concentrated in industries such as apparel, textile, leather, food, and tobacco.*
- ***Men dominate sectors** like infrastructure, transport, construction, and manufacturing.*

Gender Disparities in Training:

- *85% of training for green skills is provided to men.*
- *Over 90% of women feel limited by social norms in accessing training for green jobs.*

- *Social norms include beliefs about women's unsuitability for technical roles, safety concerns, lower representation in STEM subjects, and familial constraints.*

Importance of Gender Equity in Green Transition:

- *Empowering women and advancing gender equity in climate actions is crucial for **unlocking co-benefits of a low-carbon and sustainable economy.***
- *Increasing women's representation in green jobs can address gender biases in the labor market and improve women's participation rates.*
- *In the long run, **it can contribute to enhancing women's agency, empowerment, and providing economic, technical, and social opportunities.***

Addressing Data Gaps:

- ***Limited data on women's participation in green jobs in India necessitates mapping emerging areas for green growth and collecting sex-disaggregated data.***
- *Conducting **gender analysis and collecting gender statistics** through periodic labor force surveys can provide insights into women's roles in the green economy.*
- ***Additional resources should be mobilized** to emphasize and encourage women's participation in the green transition.*

Global Perspective:

- ***Women are lagging behind in the global efforts** to achieve climate targets and sustainability goals, particularly in the transition to a low-carbon economy.*
- *COP 28's high-level dialogue launched the '**Gender-Responsive Just Transitions and Climate Action Partnership**' to address this issue, focusing on improved data, targeted finance, and skill development.*

Ensuring Women's Access to Green Opportunities:

- *Reviewing the **current status quo and mapping women's roles** in green jobs are essential to addressing structural barriers hindering women's employment choices.*
- ***Creating a conducive ecosystem** that fosters women's participation in green jobs is crucial.*

Bridging the Gap in STEM:

- ***Despite 42.7% of STEM graduates being women in India,** they represent only 30.8% in engineering, manufacturing, and construction programs, key sectors for green transition.*
- *Early hands-on learning, mentorship, scholarships, financial assistance, and awareness generation are vital to empower women in green job-related fields.*

Supporting Women Entrepreneurs:

- **Gender-focused financial policies** and products tailored to women entrepreneurs can encourage their entry into the green transition market.
- **Measures such as collateral-free lending**, financial literacy training, and building supportive networks are crucial to unlock their potential.
- **Developing tools to assess creditworthiness**, disburse loans, and reduce operational costs for women-owned businesses is essential.

Women in Leadership:

- Increasing the representation of women in leadership positions can ensure the incorporation of **gender-specific needs in low-carbon development strategies**, thereby promoting women's integration into green jobs.

Multi-Pronged Strategy for Gender-Just Transition:

- A **gender-just transition** requires a multifaceted approach focusing on employment, social protection, reducing the burden of care work, and enabling skill development.
- **Partnerships across government**, private sector, and other stakeholders are necessary to leverage innovation, technology, and finance for women entrepreneurs and workers.

Promoting Gender Equity in Green Transition:

- Businesses need to **recognize the importance of gender justice** and ensure equity throughout the green transition process.
- This involves **mitigating barriers stemming from stereotyping** or gender bias and fostering equitable job opportunities for a just transition that benefits everyone.

Building Capacity and Support:

- It's **crucial to build the capacity and support women** in meeting the demands of the evolving world of work.
- **Co-designing a future pathway** that is socially equitable and inclusive for all is imperative at this juncture.

e-Kisan Upaj Nidhi

Syllabus:GS-3: Indian Agriculture – Farmer centric policies.

Context:

- *Minister of Consumer Affairs, Food & Public Distribution launched the 'e-Kisan Upaj Nidhi' (Digital Gateway) by Warehousing Development and Regulatory Authority (WDRA).*
- *Aimed at leveraging technology to streamline farmers' warehousing logistics and guarantee fair prices for their produce.*

About e-Kisan Upaj Nidhi

- *The e-Kisan Upaj Nidhi platform serves as a **digital gateway for the Warehousing Development and Regulatory Authority (WDRA).***
- *Simplified digital processes **enable farmers to store their produce at any registered WDRA warehouse for up to 6 months, with an interest rate of 7% per annum.***
- *This digital initiative **aims to alleviate distress sales** by offering farmers viable post-harvest storage solutions.*

Key Facts about Warehousing Development and Regulatory Authority (WDRA):

- *Established under the Warehousing (Development and Regulation) Act, 2007.*
- *Comprises one Chairperson and two full-time Members.*

Mission of WDRA:

- *To establish a **negotiable warehouse receipt** system nationwide.*
- ***Facilitate finance against warehouse receipts**, encouraging banks to improve lending portfolios.*
- *Enhance interest in lending against goods stored in warehouses, fostering scientific warehousing practices.*
- ***Increase liquidity in rural areas**, improve supply chains, and enhance grading and quality of goods to ensure higher returns to depositors.*

Benefits of Negotiable Warehouse Receipts issued by WDRA:

- *Farmers can secure loans from banks **using National Warehouse Receipts (NWRs)**, avoiding distress sales during peak marketing seasons and post-harvest storage losses.*
- ***WDRA has notified 136 agricultural commodities**, including cereals, pulses, oilseeds, spices, rubber, tobacco, coffee, etc., for issuing negotiable warehouse receipts.*
- *Additionally, **24 horticultural commodities** are designated for cold storage, along with 9 non-agricultural commodities.*