Prelim Bits 04-09-2022 & 05-09-2022 | UPSC Daily Current Affairs

Hanle Dark Sky Reserve

An MoU was signed among the Union Territory administration, the Ladakh Autonomous Hill Development Council (LAHDC), Leh, and the Indian Institute of Astrophysics, Bengaluru for launching the Dark Space Reserve.

> *Dark sky reserve is a designation given to a place that has policies in place to ensure that a tract of land or region has minimal artificial light interference.*

- The Department of Science & Technology (DST) has announced the setting up of India's first dark sky reserve at **Hanle** village in Ladakh, as a part of Changthang Wildlife Sanctuary.
- The dark sky reserve will also be known as the '**Night Sky Sanctuary**'.
- It will be one of the world's highest-located sites for optical, gamma ray and infrared telescopes.
- **Designation** - The International Dark Sky Association (U.S.-based non-profit) designates places as International Dark Sky Places, parks, sanctuaries and reserves, depending on the criteria they meet.
- In 1993, Michigan became the first state in the United States to designate a tract of land at the Lake Hudson State Recreation Area as a "Dark Sky Reserve".
- Several such reserves exist around the world but none so far in India.
- **Related Links** - Study on Astronomical Observatories

Hanle

- Hanle is regarded as one of the world's most optimal sites for astronomical observations.
- The cloudless skies and low atmospheric water vapour make it one of the world's best sites for optical, infrared, sub-millimetre, and millimetre wavelengths.
- **Advantages -** More clear nights, minimal light pollution, background aerosol concentration, uninterrupted monsoon, extremely dry atmospheric conditions.
- The site will help in boosting astro-tourism, local tourism and economy through interventions of science and technology.
- But, ensuring that the site remains well-suited for astronomy implies
    1. Keeping the night-sky pristine, or
    2. Ensuring minimal interference to the telescopes from artificial light sources such as electric lights and vehicular lights from the ground.
- The Indian Astronomical Observatory (IAO) located at Hanle is one of the promising

observatory sites globally.
- The prominent telescopes located at the Hanle observatory are
    1. Himalayan Chandra Telescope (HCT),
    2. High Energy Gamma Ray telescope (HAGAR),
    3. Major Atmospheric Cherenkov Experiment Telescope (MACE) and
    4. GROWTH-India.

Indian Astronomical Observatory

- The Indian Astronomical Observatory (IAO) is the high-altitude station of Indian Institute of Astrophysics (IIA).
- The IAO is operated by the Indian Institute of Astrophysics, Bangalore.
- It is situated to the north of Western Himalayas, atop Mt. Saraswati in the Nilamkhul Plain in the Hanle Valley of Changthang.
- It is a dry, cold desert with sparse human population.

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Kurki

A farmer, who had been sitting on a dharna against kurki orders for his land based on a court case filed against him by the local moneylender for defaulting on loan payment, had died by suicide .

- Kurki means **attachment of a farmer's land**, already pledged to the money lending institution or individual, in case of a loan default.
- Apart from banks, private moneylenders, commission agents also get these decrees against farmers from time to time.
- **Execution of kurki -** Kurki orders are executed under Section 60 of Civil Procedure Code, 1908.
- The land which is pledged by the farmer to the bank or money lender gets registered in their name.
- In some cases, the land is auctioned as well.
- The process begins after the moneylender moves court to get kurki orders in case the farmer is unable to pay back his loan.
- In kurki, attachment of farmer's land as well as his tractor can be done as per the Section 60.
- **Attempts to ban Kurki** - In 2017, Punjab abolished the Section 67-A of Punjab Cooperative Societies Act that enabled cooperatives to recover unpaid loans through auctioning of mortgaged land of farmers.
- However, Section 63-B, 63-C of the Act weren't dropped to prevent attachment of land.

This was the reason that farmers keep getting kurki orders.

- A plea filed in the Punjab and Haryana High Court in 2018 sought complete ban on kurki.
- **Reality -** Farmers point out that they are made to give post-dated cheques for loan, which are then used to get arrest orders issued in cheque bounce cases.
- Moneylenders also use promissory notes (pronotes) signed by the farmers in order to get kurki orders.

"Pro-notes" are written documents taken from farmers, and signed by them at the time of giving the loan.

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V. O. Chidambaram

The Prime Minister paid tributes to freedom fighter V. O. Chidambaram Pillai on his birth Anniversary.

- Valliyappan Ulaganathan Chidambaram (V.O.C.) was born in 1872 in Ottapidaram, Tirunelveli district of Tamil Nadu.
- He is also known as Kappalottiya Tamizhan or 'The Tamil Helmsman'.
- He was a prominent lawyer, trade union leader, an Indian freedom fighter, and leader in the Indian National Congress (INC).
- He **mobilized the workers of the Coral Mills**, thereby expanding the social base of the Swadeshi movement.
- In 1906, he **established the Swadeshi Steam Navigation Company** (SSNC), which competed with the monopoly of the British India Steam Navigation Company.
- He purchased two steamships, S.S. Gallia and S.S. Lawoe for SSNC and commenced first Indian shipping service between Tuticorin and Colombo against the opposition of the British Government and traders.
- He was charged with sedition by the British colonial government and was sentenced to life imprisonment. His barrister license was revoked.
- **Political Life** - Chidambarapillai supported Bal Gangadhar Tilak and the militant wing of the INC.
- He participated in the 1907 Surat Congress with Subramania Bharati.
- He was one of the earliest to start the 'Dharmasangha Nesavuchalai' for hand-loom industry and the 'Swadeshi Stores' for the sale of India made things to the people.
- He played a lead role in many institutions, like the "National Godown," "Madras Agro-Industrial Society Ltd.," and "The Desabimana Sangam".
- One of India's major ports, Tuticorin Port Trust, is named after him.

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Inflatable Aerodynamic Decelerator

The Indian Space Research Organisation (ISRO) has successfully tested the Inflatable Aerodynamic *Decelerator technology on a Rohini-300 (RH300 Mk II) sounding rocket from the Thumba Equatorial Rocket Launching Station.*

- The Inflatable Aerodynamic Decelerator (IAD) is a technique used for an atmospheric entry payload. An inflatable envelope and an inflatant (anything that inflates the envelope, like air or helium) make up the IAD.
- The IAD was designed and developed by ISRO's Vikram Sarabhai Space Centre (VSSC).
- This IAD was made of Kevlar fabric coated with polychloroprene.
- **Purpose** - The IAD serves to decelerate an object plunging down through the atmosphere. It systematically reduced the velocity of the payload through aerodynamic drag.
- **Working** - At around 84 km altitude, the IAD was inflated using compressed nitrogen stored in a gas bottle. Then, it descended through atmosphere with the payload part of sounding rocket.
- Once the IAD fell into the sea, it will get deflated by firing a deflation pyro valve.
- The pneumatic system used for inflating the IAD was developed by the Liquid Propulsion Systems Centre (LPSC), Valiyamala.
- **Significance** - The IAD technology could aid **cost-effective recovery of spent rocket stages** and safely land payloads on other planets.
- It can also be used in ISRO's future missions to Venus and Mars.

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Cyber Surakshit Bharat Initiative

The National e-Governance Division (NeGD), MeitY organises 30th Batch of Chief Information Security Officers' (CISOs) Deep Dive Training Programme under Cyber Surakshit Bharat Initiative.

- The Cyber Surakshit Bharat aims to ensure awareness about cybercrime and adequate safety measures for Chief Information Security Officers (CISOs) and frontline IT staff across all government departments.
- The purpose of the Cyber Surakshit Bharat is to spread awareness, build capacity as

well as enable government departments on steps that need to be taken **to create a resilient IT set up**.

- The objective of the programme is to
    1. Educate & enable the Chief Information Security Officers (CISO) & broader IT community to address the challenges of cyber security,
    2. Create awareness on the emerging landscape of cyber threats,
    3. Provide in-depth understanding on key activities, new initiatives, challenges and related solutions
    4. Applicable frameworks, guidelines & policies related to the subject
    5. Share best practices to learn from success & failures
    6. Provide key inputs to take informed decision on Cyber Security related issues in their respective functional area

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