

# 1. Chandrayaan-3

**Topic: Science and Technology**



**In News:** The Indian Space Research Organisation (ISRO) has launched Chandrayaan-3.

**More on the Topic:**

- Chandrayaan-3 is expected to soft-land on the lunar surface in August 2023.
- The mission is a **follow-on to Chandrayaan-2** to show the capability of safe landing and roving on the moon's surface.
- Chandrayaan-3 mission has scientific instruments to study **the thermo-physical properties of the lunar seismicity, lunar regolith, lunar surface plasma environment and elemental composition.**
- **Data from Chandrayaan-3 will be useful for future Artemis human landings.**

**Composition of Chandrayaan-3:**

- Chandrayaan-3 is composed of a **domestically developed propulsion module, lander module, and rover**, aimed at advancing and showcasing new technologies essential for inter-planetary missions.
- The lander and rover will gather precious scientific data on the lunar surface, specifically for a duration of 14 Earth days (equivalent to a single lunar day).
- **Accomplishing a successful soft landing will position India as the fourth nation**, following the United States, Russia, and China, to achieve this remarkable milestone.

**What is LVM-3?**

- Launch Vehicle Mark-3 is the launch vehicle of Chandrayaan-3. It was previously known as Geosynchronous Satellite Launch Vehicle (GSLV) Mk-3.
- LVM3 is a **three-stage launch vehicle equipped with two solid strap-on motors (S200), a liquid core stage (L110), and a high-thrust cryogenic upper stage (C25).**
- With a payload capacity of 8 tonnes to Low Earth Orbit (LEO) and 4 tonnes to Geosynchronous Transfer Orbit (GTO), it possesses the capability to transport significant payloads into space.

**Source: HT**



## 2. Sand and Dust Storms (SDS)

**Topic: Environment and Ecology**



**In News:** According to the United Nations, Sand and dust storms (SDS) have increased dramatically in frequency and severity in recent years.

### **More on the Topic:**

- The growing intensity and frequency of sand and dust storms present **a formidable challenge to achieving sustainable development.**
- These will especially affect **Africa and the Middle East where desertification is most common.**
- In 2022, dust storms affected countries from **Turkey to Oman**, hitting Iraq particularly badly. Iraq was hit by 10 dust storms between April and June 2022 and over 5,000 people were hospitalised.
- Human-induced climate change has increased the frequency and intensity of SDS.

### **About Sand and Dust Storms:**

- Sand and dust storms, **also known as haboobs**, are atmospheric phenomena characterized by strong winds carrying large amounts of sand, dust, and other fine particles.
- These storms typically occur in arid or semi-arid regions where loose, dry soil and sand are abundant.
- Sand and dust storms are primarily driven by strong **weather systems, such as thunderstorms or cold fronts, which generate powerful gusts of wind.**
- Additionally, they can be influenced by other factors like drought conditions, changes in atmospheric pressure, and geographical features such as deserts or dry lakebeds.

### **Impacts of Sand/Dust Storms:**

- These storms can have various impacts, both environmental and socio-economic.
- **They reduce visibility, posing risks to transportation and aviation.**
- **Dust particles act as condensation nuclei** for cloud formation affecting the amount and location of precipitation.



- The inhalation of fine dust particles can be **detrimental to human health, particularly for individuals with respiratory conditions.**
- Sand and dust storms also contribute to **soil erosion, affect agricultural productivity, and deposit layers of dust on surfaces,** impacting infrastructure and daily activities.
- They have a positive impact too. Dust deposits on the Earth's surface serve as **a valuable source of micronutrients for both terrestrial and marine ecosystems.**
- Notably, Saharan dust has been recognized for its potential to provide fertilization to the Amazon rainforest.

#### **Efforts to Mitigate Sand/Dust Storms:**

- The UN Convention to Combat Desertification (UNCCD) observed the first-ever **International Day of Combatting Sand and Dust Storms on July 12, 2023.**
- In 2015, the United Nations General Assembly acknowledged that sand and dust storms present a significant challenge to the sustainable development of countries and regions affected by them.

#### **Way Ahead:**

- **Efforts to monitor and predict sand and dust storms** have been made to mitigate their effects.
- **Early warning systems and improved meteorological forecasting** help in alerting communities and implementing precautionary measures to minimize the potential risks associated with these storms.
- To effectively address the impacts of sand and dust storms (SDS), it is crucial to implement a multi-sectoral approach that promotes information-sharing, incorporates both short-term and long-term interventions, engages various stakeholders, and enhances awareness of SDS.

**Source: Hindu**

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### 3. Namda Art of Jammu and Kashmir

**Topic: Art and Culture**



**In News:** The Union Minister of State for Skill Development and Entrepreneurship has flagged off the first batch of Namda Art products for export to the United Kingdom (UK).

**More on the Topic:**

- The Namda craft of Kashmir is being successfully revived under Skill India’s Pilot Project as part of the **Pradhan Mantri Kaushal Vikas Yojana (PMKVY)**, with candidates from the state, receiving training in the dying art form.

**About NAMda Craft:**

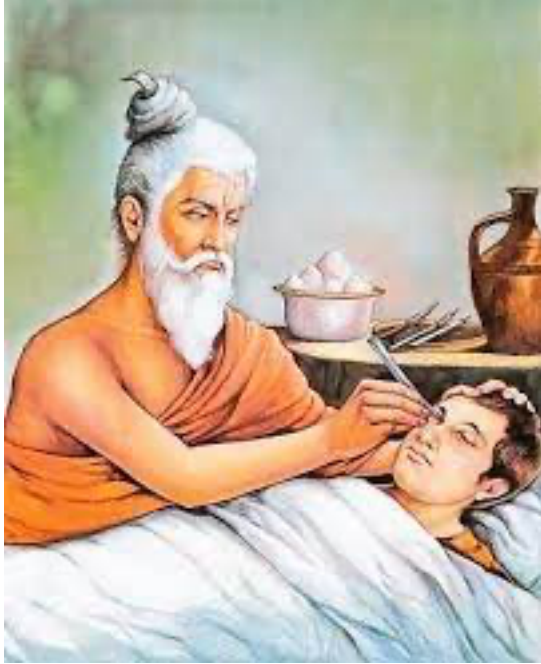
- Namda craft is a **rug made of sheep wool** through the **felting technique** instead of the **normal weaving process**.
- Due to the low availability of raw materials, lack of skilled manpower and marketing techniques, the export of this craft declined by almost 100 per cent between 1998 and 2008.
- It originated in the **16th century** and was introduced by a **Sufi saint** named **Shah-e-Hamdan**.
- Namda rugs **provide warmth** and are used as **floor coverings** and **home decor**.

**About Pradhan Mantri Kaushal Vikas Yojana (PMKVY):**

- Pradhan Mantri Kaushal Vikas Yojana (PMKVY) is **the flagship scheme of the Ministry of Skill Development and Entrepreneurship (MSDE)** implemented by the **National Skill Development Corporation (NSDC)**.
- The objective of this Skill Certification Scheme is **to enable Indian youth to take up industry-relevant skill training** that will help them in securing a better livelihood.
- Individuals with **prior experience** are also assessed and certified under **Recognition of Prior Learning (RPL)**.

## 4. Sushruta Jayanti

**Topic: Ancient Indian History**



**In News:** All-India Institute of Ayurveda has organised a three days seminar on the occasion of Sushruta Jayanti.

### **More on the Topic:**

- Sushruta Jayanti is celebrated every year on **15th July to honour the legendary Sushruta**, hailed as the father of surgery.
- Sushruta is the listed author of **the Sushruta Samhita** (Sushruta's Compendium), a treatise considered to be one of the most important surviving ancient treatises on medicine and is considered a foundational text of Ayurveda.
- He described **60 types of upakarma for the treatment of wounds, 120 surgical instruments and 300 surgical procedures.**
- Sushruta considered **surgery the first and foremost branch of medicine** and stated that surgery has the superior advantage of producing instantaneous effects using surgical instruments and appliances and hence is the highest in value of all the medical tantras.

- Presently there is an ongoing debate regarding the **authorization of postgraduate Ayurveda students to perform specified surgical procedures.**

Source: HT

## 5. Nathula Pass

**Topic: Geography**



**In News:** Landslides triggered by heavy rain cut off large parts of northern and eastern Sikkim, including Nathula Pass.

**More on the Topic:**

- Nathula Pass is a mountain pass located in the Himalayas at the Indo-China border.
- It connects the **Indian state of Sikkim with the Tibetan Autonomous Region of China.**
- The pass is situated at an altitude of approximately 4,310 meters (14,140 feet) above sea level and is one of the highest motorable passes in the world.
- To visit Nathula Pass, **Indian citizens need to obtain a Protected Area Permit (PAP).**



- The reopening of border trade through Nathula Pass took place in 2006, marking a significant event after a gap of 44 years since its closure due to the Indo-China war in 1962.

Source: Hindu

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## 6. Genetic Engineering Appraisal Committee (GEAC)

Topic: Governance



**In News:** Concerned citizens have urged the Telangana government to assert its authority and protect the public interest regarding the breach of policy decision on Genetically Modified (GM) crops by the Genetic Engineering Appraisal Committee (GEAC).

**More on the Topic:**

- The Genetic Engineering Appraisal Committee (GEAC) in India is a statutory body that functions under the Ministry of Environment, Forest and Climate Change (MoEFCC).
- It has been notified under the **Environmental Protection Act of 1986**.
- It is responsible for **evaluating and assessing proposals related to the release of genetically engineered organisms (GMOs)** into the environment, including genetically modified crops and other biotechnology-based products.
- The primary role of the GEAC is **to ensure the safety of human health and the environment** while considering the potential risks and benefits associated with genetically modified organisms (GMOs).
- The committee examines the scientific data, conducts risk assessments, and formulates guidelines and regulations for the research, development, import, export, and commercialization of GMOs in India.

Source: Hindu

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## 7. Siachen Glacier

**Topic: Geography**



**In News:** In June 1958, exactly 65 years ago, V. K. Raina, a top Indian geologist, who at that time was an Assistant Geologist with the GSI led the first GSI Survey of the Siachen glacier.

**More on the Topic:**

- The Siachen Glacier is a glacier located in the **eastern Karakoram range of the Himalayas**, near the Line of Control (LoC) between India and Pakistan.
- It is considered one of the longest glaciers outside the polar regions, spanning approximately 76 kilometres (47 miles) in length.
- It is **2nd longest nonpolar glacier in the world, after Fedchenko Glacier in Tajikistan.**
- Siachen Glacier holds strategic significance due to its location at the northernmost point of the disputed region of Jammu and Kashmir.
- It is often referred to as **the "world's highest battlefield"** as military forces from both India and Pakistan have been deployed in the region since 1984.
- The conflict over Siachen Glacier stems from the unresolved territorial dispute between India and Pakistan.

**Source: Hindu**