

## Prelim Bits 17-10-2022 | UPSC Daily Current Affairs

### Hampi and Khajuraho Temples

*The Government plans to include Hampi, Khajuraho as venues to host meetings as part of G20 'culture track' and India's G20 Presidency.*

*India is the Chairman of G20 for 2022-23 and is to host the 18<sup>th</sup> G20 summit 2023.*

### Hampi

- The group of monuments at Hampi is located in the **Tungabhadra river basin** in Bellary District, Karnataka.
- Hampi is the Capital City of the **Vijayanagara Empire** (14th-16th Century CE).

*Vijayanagara Empire was founded by Harihara and Bukka in 1336.*

- Hampi is classified as a World Heritage Site by the UNESCO.
- Hampi is also known as the 'World's Largest Open-air Museum'.
- Hampi structures belong to the **Dravidian architecture**.



- Few important sites in Hampi ruins
  - a. The Krishna temple complex,

- b. The Vitthala temple complex
- c. Virupaksha Temple
- d. Stone chariot Garuda shrine
- e. Pattabhirama temple complex
- f. Lotus Mahal complex
- The **Battle of Talikota** (1565 CE) led to a massive destruction of these structures in Hampi.

*The recently released INR 50 currency note features the Stone Chariot of Hampi.*

## **Khajuraho**

- Khajuraho temple monuments are located in the Chattarpur district of Madhya Pradesh.
- Khajuraho temples were built by the **Chandela Dynasty** in **Nagara-style** of temple architecture.
- The **23 temples** form the western, eastern, and southern clusters of the monument and belong to two different religions - **Hinduism** and **Jainism**.
- The temples are built in sandstone and has nagara-style structures like jagati (highly ornate terraced platform), jangha (the body) or shikhara (the tower).
- The famous erotic sculptures of khajuraho account for only 10% of all sculptures.
- Some of the famous temples are
  - a. Kandariya Mahadeva Temple - It is the largest among the group. The chief deity is Lord Shiv
  - b. Chitragupta Temple - dedicated to Lord Surya.
  - c. Chaturbhuja Temple - This temple is the only temple in Khajuraho that does not have a single erotic sculpture.
  - d. Parsvanatha Temple is a Jain temple built using sand-stone. It also holds images of Lord Vishnu.
  - e. Adinatha Temple, Santinatha Temple, Ghantai Temple are the other famous Jain temples.

## **References**

1. <https://indianexpress.com/article/india/hampi-khajuraho-on-list-for-g20-culture-track-8212864/>
2. <https://whc.unesco.org/en/list/241/>
3. <https://karnatakaturism.org/tour-item/hampi/>
4. <https://www.mptourism.com/destination-khajuraho.php>

## **Launch Vehicle Mark 3**

*ISRO's launch vehicle LVM3 will launch 36 broadband communication satellites of the OneWeb and marks its entry into the global commercial launch service market.*

*The launch of the 36 satellites by the LVM3 into the Lower Earth Orbit (LEO)*

*marks the first LVM3-dedicated commercial launch on demand through NewSpace India Limited (NSIL).*

*NSIL is a central public sector enterprise under the Department of Space and the commercial arm of the space agency.*

- Launch Vehicle Mark 3 (LVM3) is the **heaviest rocket** of ISRO.
- LVM3 was earlier called Geosynchronous Launch Vehicle Mark III (GSLV Mk III).
- The name of the vehicle is changed from GSLV to LVM because the rocket will not deploy the satellites in the geosynchronous orbit.
- This is not the first time that ISRO has re-designated the vehicle to LVM-3.
- In 2014, the GSLV-Mk-III was also named LVM-3 as it launched with the Crew module Atmospheric Re-entry Experiment (CARE) into space.

### **GSLV Mk III**

- GSLV Mk III is configured as a **three stage** vehicle with two solid strap-on motors, one liquid core stage and a cryogenic upper stage.
- It is a **medium-lift** launch vehicle primarily designed to launch communication satellites into geosynchronous orbit.
- GSLV Mk III has the capability to launch 4000 kg payload into Geosynchronous Transfer Orbit (GTO) and 8000 kg payload into LEO.

*GSLV Mk III carried India's second lunar mission Chandrayaan-2.*

- **Related Links** - [Earth Observation Satellites](#), [Small Satellite Launch Vehicle](#), [EOS-02 Satellite](#), [Reconnaissance Satellite](#)

### **References**

1. <https://www.thehindu.com/sci-tech/science/isros-lvm3-to-make-commercial-foray-with-launch-of-36-oneweb-satellites/article66013403.ece>
2. <https://timesofindia.indiatimes.com/business/india-business/isros-lvm3-to-make-commercial-foray-with-launch-of-36-oneweb-satellites-on-october-23/articleshow/94873095.cms>
3. <https://www.isro.gov.in/lvmhtml>

### **Next-Gen Launch Vehicle**

*The Indian Space Research Organisation (ISRO) is developing a Next-Gen Launch Vehicle (NGLV), which will replace the Polar Satellite Launch Vehicle (PSLV) in future.*

- Next-Gen Launch Vehicle (NGLV) will feature a simple, robust design which allows bulk manufacturing and minimal turnaround time.
- It is a three-stage to orbit, **reusable** heavy-lift vehicle.
- The payload capability is comparatively lower than expendable launch vehicle.
- NGLV uses **semi-cryogenic** propulsion system which is both efficient and cost-

effective.

*A semi-cryogenic engine uses refined kerosene instead of liquid hydrogen and the liquid oxygen is used as an oxidiser.*

- Potential areas of NGLV's use –
  - a. launching communication satellites
  - b. deep space missions
  - c. future human spaceflight
  - d. cargo missions

## **Polar Satellite Launch Vehicle**

- Polar Satellite Launch Vehicle (PSLV) is the third-generation four-stage launch vehicle of India.
- It is the first Indian launch vehicle to be equipped with liquid stages in its propulsion system.
- PSLV is an indigenously-developed **expendable** launch system of the ISRO.

*The word 'expendable' means that the vehicle is designed for single use and not reusable.*

- PSLVs are medium-lift launchers with multiple satellite launch capability and multiple orbit capability.
- They can reach up to various orbits, including the Geo Synchronous Transfer Orbit (GTO), Lower Earth Orbit (LEO), and Polar Sun Synchronous Orbit.
- PSLV earned its title 'the **Workhorse of ISRO**' through consistently delivering various satellites to Low Earth Orbits.

*PSLV was used in missions like Chandrayaan-1, MOM, and IRNSS.*

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1. <https://www.thehindu.com/sci-tech/science/isros-next-gen-launch-vehicle-may-assume-pslvs-role/article66005152.ece>
2. <https://www.newindianexpress.com/states/kerala/2022/oct/13/isro-developing-new-rocket-to-replace-pslv-250775.html>
3. <https://www.indiatoday.in/science/story/isro-oneweb-launch-gslv-mk-iii-lvm-3-rocket-2286187-2022-10-17>
4. [https://www.isro.gov.in/GSLVmk3\\_CON.html](https://www.isro.gov.in/GSLVmk3_CON.html)

## **The Galápagos Islands**

*According to a new study, the cold, eastward equatorial ocean current has been gaining*

*strength for decades.*

- This is of great significant because the Galápagos Islands are protected from global warming in the Pacific Ocean Region by this cold, eastward equatorial ocean current.
- This cold ocean current creates a cooler, more stable environment for coral reefs and marine life and birds that often live much closer to the poles.
- The temperatures in waters along the west coast of the Galápagos have dropped by 0.5 degrees Celsius since the early 1990s due to this cold ocean current.
- Corals do not bleach and die in these waters off the west coast of Ecuador.
- However, El Niño poses a threat to the island group.
- It shuts down the cold current every couple of years, causing penguin populations to collapse.

*El Niño is a climate pattern that causes unusual warming of surface waters in the eastern tropical Pacific Ocean.*

## **Galapagos Islands**

- The Galapagos Islands are a group of islands in the Pacific Ocean some 1,000 km from the South American continent.
- The islands lies on the equator and belong to the country Ecuador.
- It is located at the confluence of three ocean currents viz - Humboldt Current, Panama current and South Equatorial counter current (Cromwell current).
- This confluence of currents makes it one of the richest marine ecosystems in the world.



- The Galapagos Marine Reserve which surrounds the islands, is one of the largest marine reserves in the world.
- The island is a biodiverse ecosystem and home to several endangered species.

1. Galápagos penguin
2. Galápagos fur seal and
3. Galápagos sea lion.

- **Recognition** - The Galapagos Islands is designated as a UNESCO World Heritage Site.
- Ongoing seismic and volcanic activity reflects the processes that formed the islands.
- Hence, it is described by the UNESCO World Heritage Convention as a 'living museum and showcase of evolution.'

## References

1. <https://www.downtoearth.org.in/news/wildlife-biodiversity/ocean-currents-protect-galapagos-islands-from-global-warming-but-are-they-safe-forever--85467>
2. <https://whc.unesco.org/en/list/1/>

## UNDRR-WMO Joint Report on MHEWS

*The United Nations Disaster Risk Reduction (UNDRR) and the World Meteorological Organisation (WMO) released a report on the International Day of Disaster Risk Reduction (13th October).*

- The UNDRR-WMO joint report assesses the current global status of multi-hazard early warning systems (MHEWS) against Target G of the Sendai Framework.
- The analysis was made with data from the Sendai Framework Monitor (SFM).
- SFM is an online tool where member countries report their progress on the targets outlined in the Sendai Framework.

*The Sendai Framework (2015-2030) is a global blueprint for disaster risk reduction and prevention.*

## **Key Findings of the Report**

- On average, at least 40% of countries in every region reported that they operate a multi-hazard early warning systems (MHEWS).
- Less than 50% of the Least Developing Countries (LDC) are equipped with MHEWS.
- Only 33% of Small Island Developing Countries (SIDS) are equipped with MHEWS.
- There are four items on the UNDRR checklist to ensure that an early warning system is up to the mark:
  1. Risk knowledge;
  2. Technical monitoring and warning service;
  3. Communication and dissemination of warnings;
  4. Community response capability
- Considerable progress has been made in all four areas, but considerable investments are still needed in MHEWS.
- National capacities in assessing MHEWS' effectiveness, especially in LDCs and SIDS, need to be enhanced.

## **United Nations Office for Disaster Risk Reduction**

- United Nations Office for Disaster Risk Reduction (UNDRR) is the United Nations focal point for disaster risk reduction.
- The mission of the UNDRR is to provide leadership and support to accelerate global efforts in disaster risk reduction
  - a. To achieve inclusive sustainable development and
  - b. To achieve the goal of the **Sendai Framework** for Disaster Risk Reduction 2015-2030.
- It oversees the implementation of the Sendai Framework.
- It supports countries in its implementation, monitoring and sharing what works in reducing existing risk and preventing the creation of new risk.
- Related Links - [Global Platform for Disaster Risk Reduction](#),

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2. <https://vikaspedia.in/social-welfare/disaster-management-1/important-days/international-day-for-disaster-reduction>

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