

## UPSC Daily Current Affairs | Prelim Bits 23-05-2024

### Phanigiri

*Hoard of lead coins belonging was found in Phanigiri village.*

- **Etymology** - It seems to have derived its name from the shape of a nearby hillock, which appears to be like a snake hood.
  - **In Sanskrit** - *Phani means snake* and *Giri means hillock*.
- **Location** - It lies on the left bank of the *Bikkeru rivulet*, a tributary of the river Musi in Telangana.
- **Discovery** - It was 1<sup>st</sup> discovered & protected during the period of Nizam, was excavated in 1940s by Sri Khaja Mahamad Ahmad.
- It was not a lone site in this zone as there are *several Buddhist sites nearby*.

*Phanigiri village was occupied by pre/proto-historic, early historic, early medieval and Asaf Jahi period inhabitants that had a vibrant life from 1000 BCE to late 18th century CE.*

- **Coins** - A globular pot was unearthed that was filled with **lead coins**, *3730 in number* & the average weight of *each coin is 2.3g*.
- **Other findings** - Beads of stone and glass, shell bangle fragments, stucco motifs, broken limestone sculptures, a *toy cart wheel*, iron nails, and pottery were also found during excavations.

*Earlier excavations at Phanigiri had a Mahastupa, apsidal Chaitya Grihas, Viharas, a 24 pillared mandapa and Brahmi label inscriptions.*

- **Observation** - The coins have an **elephant symbol** on the obverse and **ujjain symbol** on the reverse, concluded that these coins belong to the Ikshvaku period.



### Reference

## **Ikshvaku Kingdom**

*The lead coins excavated at Phanigiri village was found to be from Ikshvaku period.*

- This dynasty is also known as Suryavamsa (the Solar dynasty).
- **Founded by** - A chieftain called Chamtamula, a *feudatory of the Satavahanas*.

*Chamtamula claimed legitimacy as a sovereign king by performing an Ashwamedh yajna—the royal Brahminical ritual that ended with a horse sacrifice.*

- **Location** - Andhra Pradesh & Telangana region
- **Time period** - 220-320 CE.
- **Capital city** - Vijayapuri
- **Discovered in** - 1920



- **Religion** - It patronised *Buddhism (mainly Mahayana)*, *Brahminism*, as well as older folk religions.

*Vijayapuri the capital of Ikshvakus hosted **Nagarjuna**, also known as ‘the 2<sup>nd</sup> Buddha’, and founder of Madhyamaka, or the Middle Path school of Mahayana Buddhism.*

- **Gender bias in religious faiths** - The *kings mostly patronized Brahminism* and imagined themselves as descendants of Rama.

- But queens and other wealthy *women mostly patronized Buddhism*.
- **Society** - The royal family lived in a citadel on a hill while the less well-off lived in homes made of bamboo and thatch.
- Relief carvings of the *goddess Sati* indicate what may be the earliest instances of *sati in south India*.
- **Economy** - It *traded with Rome*, evident from the roman coins.
- **Architecture** - They built the only *amphitheatre* found in ancient India.
- **Decline** - Over a decade or two, the *Krishna River rose & began flooding* the capital city that made the people to move out.
- There is also evidence of plunder, destruction, and the breaking of statues by an *invading army of the Pallavas* from the south, which were expanding military power in the early 4th century.
- Between the floodings and the invasion, Vijayapuri's fate was sealed and was mostly *abandoned by around 320 CE*.

## Reference

[The Wire| Ikshvaku Kingdom](#)

## World Hydrogen Summit 2024

*For the first time, India has set up its pavilion, at the World Hydrogen Summit 2024, which was held at Rotterdam in Netherlands.*

- It is a prestigious event in the global green hydrogen ecosystem and is the *world's largest dedicated hydrogen event*.
- **Organised by** - The *Sustainable Energy Council* (SEC) in partnership with the Government of the Netherlands.
- **Participants** - Around 15,000 delegates from around the world are attending the Summit.
- **India's pavilion** - It is organised by Ministry of New and Renewable Energy (MNRE), one of the largest in the summit
- It provides an opportunity to showcase to the world the progress made by India in the field of [Green Hydrogen](#).

## India in Green Hydrogen

- India launched its National Green Hydrogen Mission in January 2023 with an overall outlay of Rs 19,744 crores.
  - Its target is to have green hydrogen production capacity of 5 million tonnes by the end of the year 2030.
- As in 2024, the MNRE has awarded tenders for setting up 412,000 tonnes of Green Hydrogen production capacity and 1,500 MW of electrolyser manufacturing capacity.
- India meets a sizable portion of its energy needs through various renewable energy sources, including green hydrogen
- India has also released scheme guidelines for the use of Green Hydrogen in steel, transport, and shipping sectors.
- The Department of Science and Technology has initiated Hydrogen Valley Innovation Clusters to foster innovation and promote the green hydrogen ecosystem in India.

*By 2030, non-fossil energy sources would account for 65 per cent of India's energy demands, up from 44 per cent at the moment.*

## References

1. [Economic Times| India's Pavilion in Green Hydrogen Summit](#)
2. [WorldHydrogenSummit| World Hydrogen Summit 2024](#)

## AI agents

*The recently launched GPT-4O by OpenAI and Project Astra by Google were powered by AI agents.*

*Both [GPT-4O](#) and Project Astra are capable of processing the real world through audio and visual inputs and provide intelligent responses and assistance. They can have instant real-time conversations with a user.*

- **AI agents** - They are sophisticated AI systems that can engage in real-time, multi-modal interactions with humans.
- **Processing** - It can process and respond to a wide variety of inputs including voice, images, and even input from their surroundings.
- **Working**
  - Perceive their environment via sensors
  - Process the information using algorithms or AI models
  - Take subsequent actions.
- **Applications** - Currently, they are used in fields such as gaming, robotics, virtual assistants, autonomous vehicles, etc.
- **Advantages** - They are superior over conventional language models, which solely work on text-based inputs and outputs.
- When it comes to adapting to new situations, they are versatile & capable of handling a wide range of situations.

	Large Language Models (LLMs)	AI Agents
<b>Examples</b>	GPT-3 & GPT-4	GPT-4O & Project Astra
<b>Interaction</b>	Generate only human-like text	Natural and immersive interactions with the help of voice, vision, and environmental sensors.
<b>Input range</b>	Text	Text, Audio, Vision
<b>Response Time</b>	Relatively time consuming	Instantaneous, real-time conversations with responses much similar to humans.
<b>Contextual Awareness</b>	Lacks	Understands & provides personalised responses.
<b>Autonomy</b>	No since they only generate text output.	It can perform complex tasks autonomously such as coding, data analysis, etc.
<b>Physical actions</b>	No	When integrated with robotic systems, it can even perform.

- **Challenges** - *Privacy and security* issues as AI agents gain access to more personal data and environmental information.
- It can *carry forward biases* from their training data or algorithms, leading to harmful outcomes.

## Reference

[The Indian Express| AI Agents enable real time conversation](#)

## Humboldt Glacier

*Recently, scientists reclassified the Humboldt glacier as an ice field.*

- **Located in** - The *Andes Mountain in Venezuela*
- **Melting** - It has shrunk to an area of ***less than 2 hectares***, leading to its *downgrade from a glacier to an ice field*.

*An **ice field** is a mass of interconnected valley glaciers on a mountain mass with protruding rock ridges or summits.*

*Although there is no universal consensus on how large a mass of ice has to be to qualify as a glacier, the United States Geological Survey says a commonly accepted guideline is **around 10 hectares**.*

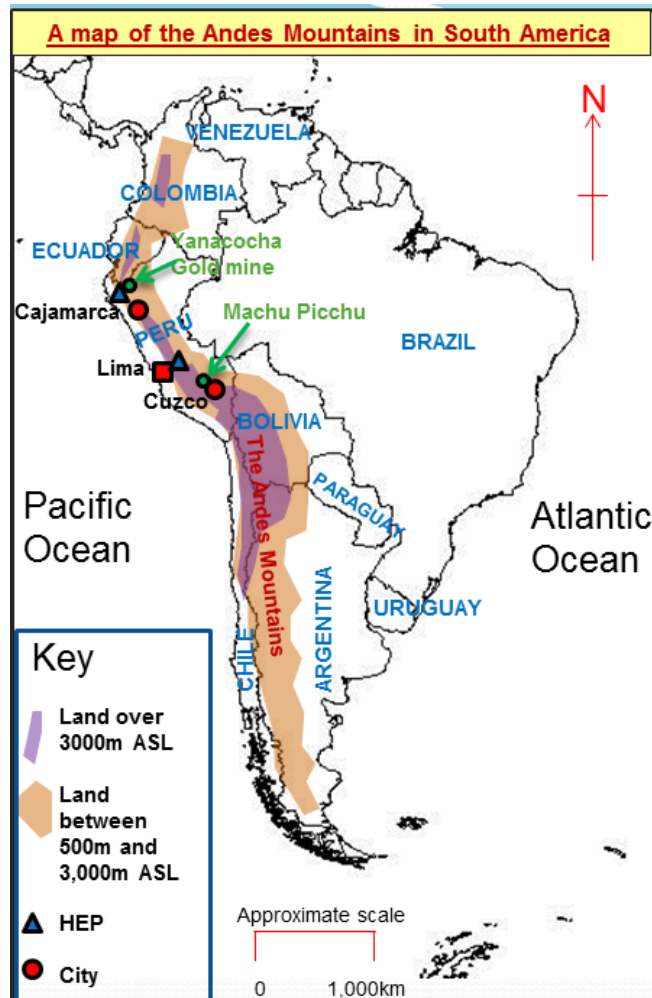
- **Causes of melting** - The *Andes has witnessed a temperature increase* of a high rate of 0.10 degree Celsius in the past 7 decades.

- The melting was *accelerated by El Niño in 2023*, an abnormal warming of surface waters in the equatorial Pacific Ocean.
- **Impact** - It affects the source of freshwater in the area and affect the living organisms dependent on it.
- Experts suggest that Venezuela's Humboldt glacier did *not have enough ice* to substantially raise sea levels.

*Venezuela has become the 1<sup>st</sup> country in modern history to lose all its glaciers. It used to be home to 6 glaciers in the Andes Mountains. By 2011, it lost 5 of them & now it had lost the remaining Humboldt glacier.*

## **The Andes**

- It is a *mountain range* running, located along the *entire western coast of South America*, about 7,242 kms long.
- **Formation** - Due to the convergence of the oceanic *Nazca plate* and the continental *South American plate*.
- **Spans 7 countries** - Argentina, Bolivia, Chile, Colombia, Ecuador, Peru, and Venezuela.
- **Features** - The highest elevation in the Andes is *Mount Aconcagua* in Argentina, which is 6,962 m above sea level.
- **Significance** - They are home to *99% of tropical glaciers* and is the *longest mountain range* in the world.



### Quick Facts

- **The Humboldt Current** - Also called the Peru Current, is a cold, low-salinity ocean current that flows north along the western coast of South America.
- **Humboldt's enigma** - A term to describe the puzzle of why some mountain regions, especially in the tropics, have exceptionally high biodiversity, contrary to the expected decrease in diversity.

### References

1. [The Indian Express| Humboldt Glacier downgraded as an Ice field](#)
2. [LiveScience| The Andes Mountain range](#)