

## Prelim Bits 25-11-2022 | UPSC Daily Current Affairs

### Cordite

*Explosion happened at the cordite section of the ordnance factory unit in Aruvankadu, Nilgiris.*

- Cordite is a family of **smokeless propellants** developed and produced in the United Kingdom from 1889 to replace gunpowder as a military propellant.
- The cordlike shaped propellant is of the double-base type.
- The double-base propellants generally contain two bases and a stabilizer.
  1. Nitrocellulose (guncotton)
  2. A liquid organic nitrate (e.g., nitroglycerin) having the property of gelatinizing nitrocellulose
  3. Stabilizing agent (petroleum jelly)

### Indian Ordnance Factories

- The Indian Ordnance Factories is the oldest and largest industrial setup which functions under the Department of Defence Production of the Ministry of Defence.
- Ordnance factories are divided into 7 Defence Public Sector Undertakings with 41 units across the country.
- The Ordnance Factories form an integrated base for indigenous production of defence hardware and equipment, with the primary objective of self-reliance in defence.

### Cordite Factory

- Cordite Factory, Aruvankadu is located in the hilly region of Nilgiris, Tamil Nadu was established in the year 1904.
- It is the first smokeless propellant factory in India.
- The cordite factory in Aruvankadu manufactures nitrocellulose and nitroglycerine, which are mixed to make propellants for small arms and ammunition.

### References

1. [Indian Express - Explosion in cordite unit at ordnance factory](#)
2. [Directorate of Ordnance](#)
3. [Britannica - Cordite](#)

### Dhanushkodi

*A family of five from Killinochi district, Sri Lanka, reached the Indian waters at first islet of Dhanushkodi.*

*Dhanushkodi literally translates into 'end of the bow', which denotes the legend of Lord Rama and Ramayana.*

- The southernmost tip of the Pamban Island is called Dhanushkodi.
- It is one of the smallest towns in the world, with a length of just 50 yards.
- Dhanushkodi is the land border between Sri Lanka and India and is around 15 km away from Sri Lanka.
- The town of Dhanushkodi is surrounded by Bay of Bengal on one side and Indian Ocean on other side.



- **Ghost Town** - The town has been declared as a ghost town after the Rameshwaram cyclone hit the town in 1964.
- The town was completely washed away by the cyclone except for the Kothandaramasamy Temple.
- The town is mostly uninhabited ever since the cyclone and only few fishermen families live here.
- **Significance** - The ghost town is a famous tourist spot known for the cyclone ruins and the vast stretch of beach.
- The Gulf of Mannar Marine National Park is located between Tuticorin and Dhanushkodi.

## References

1. [The Hindu - Family of 5 from Sri Lanka reaches Dhanushkodi](#)
2. [GoTN - Ramanathapuram District](#)

## Leith's Soft-shelled Turtle

*India's proposal for transferring Leith's Softshell Turtle to Appendix I of CITES has been adopted by CoP-19 to CITES at Panama.*

- Leith's Softshell Turtle (*Nilssonina leithi*) is a large **fresh water** soft-shelled turtle which inhabits rivers and reservoirs.
- **Distribution** - Leith's Softshell Turtle is **endemic** to peninsular India.
- Its presence is substantial in the Cauvery, Tungabhadra, Ghataprabha, Bhavani, Godavari and Moyar drainages.



- **Food** - Feeds on fish, crabs, fresh water molluscs and mosquito larvae.
- Some turtles are kept in temple tanks, where they are fed with hibiscus flowers.
- **Threats** - Loss of habitat due to pollution and unchecked urbanisation.
- Poached for domestic illegal consuming and illegally traded abroad for meat and its calipee which are used in traditional Chinese medicine and soup delicacy.
- **Conservation**
  1. Wild Life (Protection) Act, 1972 - Schedule IV
  2. IUCN - Critically Endangered
  3. CITES - Appendix I (Moved from Appendix II in COP-19 to CITES)

### CITES and Turtles of India

- In COP-18 of CITES, **Indian star tortoises** were added to the Appendix I of CITES.
- In COP-19 of CITES, **Red-Crowned Roofed Turtle** was transferred from Appendix II to Appendix I of CITES.
- Leith's Softshell Turtle was also transferred from Appendix II to Appendix I of CITES in COP-19.

### References

1. [PIB - CITES protection to Leith's Soft-shelled Turtle](#)
2. [Down To Earth - Two Indian turtles added to threatened species list](#)
3. [IUCN - Leith's Softshell Turtle](#)

### Hyperspectral Imaging Satellite

*The Bengaluru start-up will launch its third hyperspectral imaging satellite via ISRO's PSLV.*

- Satellite imaging has various applications like disaster relief, agricultural monitoring, energy monitoring, urban planning, etc.
- There are three types of satellite imaging possible from space:
  1. Red-Green-Blue imaging
  2. Multispectral imaging
  3. Hyperspectral imaging
- Hyperspectral imaging (HSI) is a technique that analyses a wide spectrum of light to each pixel and captures data at hundreds of wavelengths.

- The light striking each pixel is broken down into many different spectral bands in order to provide more information on what is imaged.
- Thus the hyperspectral imaging collect the spectrum for each pixel present in an image of a scene.
- It gathers and analyses data from the whole electromagnetic spectrum.
- This sort of imaging help discover objects, identify materials in an image, which might not be possible in other two imaging techniques.

***HysIS Satellite*** is India's first hyperspectral imaging satellite for advanced Earth observation.

#### **Satellite Anand**

- Anand is a hyper-spectral satellite developed by Bengaluru-based start-up Pixxel.
- Anand weighs less than 15 kilograms and can sustain over 150+ wavelengths.
- The satellite can detect gasses, methane leaks, underground oil, pest infestations and crops diseases early on.
- Pixxel became the first Indian company ever to launch a commercial satellite. Satellite 'Shakuntala' was launched using SpaceX's Falcon-9 rocket.

### **References**

1. [Indian Express - Anand Hyperspectral Imaging Satellite](#)
2. [Hindustan Times - ISRO's PSLV to launch Pixxel's satellite](#)
3. [Science Direct - Hyperspectral Imaging](#)

### **Network Readiness Index 2022**

*India has improved its position by 6 slots and ranked 61<sup>st</sup> as per the Network Readiness Index 2022 report.*

- India is now ranked 61<sup>st</sup> on the Network Readiness Index 2022 (NRI 2022) report with a score 51.19 (49.74 in 2019).
- India is ranked 3<sup>rd</sup> out of 36 in the group of lower-middle-income countries after Ukraine (50) and Indonesia (59).

<b>India</b>	<b>#61</b>
<b>Overall:</b>	<b>51.19</b>
<b>Technology:</b>	<b>47.84</b>
<b>People:</b>	<b>50.90</b>
<b>Governance:</b>	<b>50.96</b>
<b>Impact:</b>	<b>55.07</b>

- India has a score higher than the income group average in all pillars and sub-pillars.
- India secured top positions in few pillars and sub-pillars.

<b>Pillars / Sub-pillars</b>	<b>Rank</b>
AI talent concentration	1
Mobile broadband internet traffic within the country International Internet bandwidth	2
Annual investment in telecommunication services Domestic market size	3
ICT Services exports	4
FTTH/Building Internet subscriptions AI scientific publications	5

- The NRI Report maps the network-based readiness landscape of 131 economies.
- In the NRI 2022, the United States and Singapore ranks 1<sup>st</sup> and 2<sup>nd</sup> respectively.
- **Methodology** - The report covers a total of 58 variables which are based on their performances in 4 different pillars:
  1. Technology
  2. People
  3. Governance
  4. Impact
- **Prepared by** - Portulans Institute, an independent non-profit research and educational institute based in Washington DC.

## References

1. [PIB - India Climbs Up Six Slots In Network Readiness Index 2022](#)
2. [Live Mint - India Ranks 61<sup>st</sup> On Network Readiness Index 2022](#)
3. [The Network Readiness Index](#)