

Prelim Bits 06-04-2023 | UPSC Daily Current Affairs

Dhawan II Engine

Skyroot Aerospace successfully test-fired 3D-printed engine 'Dhawan-II' for a record 200 seconds.

- In 2021, Skyroot successfully tested India's first privately developed fully Cryogenic rocket engine 'Dhawan-I' which will power Vikram-I.
- 'Dhawan-II' is a 3.5 Kilo Newton (kN) engine which is the successor of 'Dhawan-I' (1.0 kN).
- The endurance test of 'Dhawan-II' was carried out at Solar Industries propulsion test facility in Nagpur.
- The engine was developed by Skyroot Aerospace for its heavier vehicle, Vikram II.
- The Dhawan-II cryogenic engine will be used as the upper stage of the updated version Vikram II.
- Fully cryogenic engines are ideal for the upper stages of a rocket due to their higher specific impulse that enhances payload-carrying capabilities.
- The cryogenic rocket engine uses 2 high-performance rocket fuels which require cryogenic temperatures (below -150° Celsius) for storage and operation.
- Liquid Natural Gas (LNG) and Liquid Oxygen (LoX) are the 2 cryogenic rocket fuels.
- Related Link - [Vikram-S](#)

*Skyroot has named its cryogenic engine '**Dhawan**' in honour of ISRO chairman Satish Dhawan, a key architect of India's space programme.*

References

1. [IE - Skyroot testfires 3D-printed cryogenic engine](#)
2. [Iddia Today - Skyroot successfully test fires 3D-printed rocket engine](#)
3. [TOI - Skyroot wraps up endurance test of Dhawan-II cryo engine](#)

Prosopis chilensis

A study has revealed that Prosopis chilensis is threatening to pulverise native vegetation in the Gulf of Mannar Biosphere Reserve (GoMBR).

- *Prosopis chilensis* is a drought-resistant plant.
- It is also commonly known as Chilean mesquite.
- It is a small to medium-sized legume tree
- **Similarity** - It is very similar to Prosopis Juliflora (known as Mesquite) in both genetic and physical features.

- **Spread** - It is native to the arid regions of South American countries namely, Argentina, Bolivia, Chile, and Peru.
- The species has migrated to Africa and naturalized in many African countries.
- **Threat** - *Prosopis chilensis* is an alien invasive species in the 21 islands divided into the Tuticorin, Vembar, Kilakkarai, and Mandapam groups in the Gulf of Mannar Biosphere Reserve (GoMBR).
- The invasiveness of this species and how they came to India is not known so far.
- Corals, seagrass, and mangroves are among the 3 unique ecosystems present on the islands.
- Like any invasive species on an island, *Prosopis chilensis* will slowly kill the native trees as well as the mangroves.
- The GoMBR, India's first marine biosphere reserve, is one of the important habitats for coastal birds migrating as far as the Arctic Circle.

References

1. [The Hindu - Triple trouble for Gulf of Mannar islands](#)
2. [Feedipedia - Chilean mesquite \(Prosopis chilensis\)](#)

Ladakh's Wood Carving

Ladakh's wood carving has been granted the Geographical Indication (GI) Tag.

*Last year, the government granted GI Tag for **Raktsey Karpo apricot** of Ladakh, first ever GI tag for Ladakh.*

- Wood carving of Ladakh has been an aesthetically vibrant art form in the Ladakh region.
- Ladakh's wood carving has been known for its intricate designs and unique patterns.
- The designs are mostly inspired by Buddhist themes and motifs.
- The wood carvings are made from local wood such as willow and apricot.
- They are often used for decorating doors, windows, and other household items.
- The most ubiquitous piece of furniture is the '*chokste*', a low heighted wooden table.
- The heavily ornamental carving is either simply polished, or is painted and then varnished.
- The GI tag will make cultural traditions of Ladakh popular and benefit wood carving artisans of Ladakh.



Geographical Indication Tag

- Geographic Indication (GI) is defined under Article-23 and 24 of the Trade-Related Aspects of Intellectual Property Rights (TRIPS) Agreement of the World Trade Organization (WTO).
- India is a member of the WTO and thus enacted the Geographical Indications of Goods (Registration & Protection) Act, 1999 which came into force from 2003.
- A geographical indication (GI) is a sign used on products that have a specific geographical origin and possess qualities or a reputation that are due to that origin.
- The qualities, characteristics or reputation of the product should be essentially due to the place of origin.
- The registration of a geographical indication is valid for a period of 10 years.
- Darjeeling tea became the first GI tagged product in India.

References

1. [PIB - PM applauds GI Tag for Ladakh's Wood Carving](#)
2. [Great Kashmir - Ladakh's wood carving gets GI Tag](#)

India Justice Report 2022

The India Justice Report which ranks individual Indian states in relation to their capacity to deliver access to justice was released for 2022.

- The India Justice Report (IJR) was initiated by Tata Trusts in 2019, and 2022 report is its third edition.
- The report tracks the performance of States in capacitating their justice delivery structures to effectively deliver mandated services.
- for 24 months
- The report also separately assesses the capacity of the 25 State Human Rights

Commissions in the country.

- This report is based on overall data of 4 pillars of justice delivery namely **Police**, **Judiciary**, **Prisons**, and **Legal Aid**.
- The report ranked states in 2 categories -
 1. 18 large and medium sized states with population of over 1 crore
 2. Seven small states with population less than one crore.

- **Ranking for 2022**

Rank	Large and Mid-sized States (18)	Small States (7)
1	Karnataka	Sikkim
2	Tamil Nadu	Arunachal Pradesh
3	Telangana	Tripura
Last	Uttar Pradesh (18th)	Goa (7th)

- **Funding** - Except for 2 union territories, Delhi and Chandigarh, no state spends more than 1% of its total annual expenditure on the judiciary.
- **Vacancy** - The report indicates a vacancy of 22% among the sanctioned posts in judiciary (30% vacancy of judges in HC).
- **Gender disparity** - Only 13% of High Court judges and 35% of Subordinate Court judges are women.
- **Pendency** - One in every four high court cases is pending for more than 5 years.

References

1. [The Hindu - India Justice Report 2022](#)
2. [IE - Justice system plagued by low budgets: IJR 2022](#)
3. [TATA Trusts -India Justice Report 2022](#)

UN Statistical Commission

India has been elected to the highest statistical body of the United Nations for a 4-year term beginning January 1, 2024.

- The United Nations Statistical Commission was established by the UN Economic and Social Council in 1947, as its Functional Commission.
- It is the highest body of the global statistical system.
- It is the highest decision making body for international statistical activities.
- **Functions** - It sets statistical standards and develop concepts and methods, including their implementation at the national and international level.
- The Statistical Commission oversees the work of the United Nations Statistics Division (UNSD).
- **Memberships** - The Commission consists of 24 member countries of the United Nations.
- The term of office of members is four years.
- The members are elected by the United Nations Economic and Social Council on the basis of an equitable geographical distribution.
- India has been elected from the Asia-Pacific States group for a 4-year term beginning

January 1, 2024.

WHAT'S THE DIFFERENCE?

BUTTERFLY

long, thin antennae used for smelling

proboscis to suck nectar from flowers

thin wings with a smooth coat of scales

usually rest with wings closed

active during the day

makes a chrysalis on a branch to hang

brightly colored wings



MOTH

short, feathery antennae used for smelling

no proboscis, store fat from larval stage to survive

thick wings with a fuzzy coat of scales

usually rest with wings open

active during the night

makes a cocoon underground

dull colored wings



References

1. [IE - India elected to UN stats panel for 4-year term](#)
2. [UN - United Nations Statistical Commission](#)



SHANKAR
IAS PARLIAMENT
Information is Empowering