Prelim Bits 19-11-2022 | UPSC Daily Current Affairs

Vikram-S

Mission Prarambh's Vikram-S India's first private rocket, lifts off from ISRO's Launchpad in Sriharikota.

> *Vikram-S rocket is named after Vikram Sarabhai, the father of Indian space science.*

- Vikram-suborbital (VKS) is the first of the Vikram series of launch vehicle developed by Hyderabad-based start-up Skyroot Aerospace Private Limited.
- The rocket has been built using advanced technologies including carbon composite structures and 3D-printed components.
- Vikram-S is a **sub-orbital** launch vehicle.
- The **solid** fuelled rocket is **single-staged**.
- It has a gross lift off mass of 545kg and payload mass of 80 kg.
- Vikram series of orbital class space launch vehicles includes Vikram I, Vikram II and Vikram III.
- Vikram-1 orbital vehicle is planned for launch next year.

- *Orbital velocity is the speed that an object must maintain to remain in orbit around a planet*
- *An orbital rocket achieves orbital velocity, whereas a suborbital rocket flies at a speed below that.*
- *In simple words, a sub-orbital vehicle travel high enough to reach the 'edge' of outer space but do not have the energy to achieve orbit.*

Mission Prarambh

- It is the maiden mission of launching 3 payloads to the sub-orbit in Vikram-S.
- The 6-metre tall vehicle hit a peak altitude of 89.5 kilometres and then splashed into the Bay of Bengal in about 5 minutes after the launch.
- It marks the first launch of a launch vehicle developed by a private company in India.
- The mission was authorized by IN-SPACe.

> *In June 2020, the space sector was opened up for private stakeholders and enabled to unlock the immense potential of the Indian Space Sector.*

References

1. The Hindu | Vikram-S lifts off from ISRO spaceport
2. The Indian Express | Mission Prarambh's Vikram-S rocket
3. ISRO | Mission Prarambh

No Money for Terror

India hosted the 3rd Ministerial Conference on Countering Financing of Terrorism themed 'No Money For Terror (NMFT)'.

- The Conference offers a unique platform to deliberate on the effectiveness of the current international regime on Counter Terrorism Financing as well as steps required to address emerging challenges.
- In 2018 France mobilized countries determined to identify and drain all the sources of terrorist financing, thus started NMFT.
- The Ministerial Conference on Countering Financing was first held in Paris in 2018, followed by Melbourne in 2019.
- India hosted the 3rd conference of NMFT at New Delhi.
- About 450 delegates from across the world including Financial Action Task Force, Heads of Delegations participated in the conference.
- **Agenda** – To discuss about the use of crowdfunding platforms to finance terrorist activities and weak control mechanisms of social media platforms.
- The 2 day conference focuses on –
    1. Global trends in terrorism and terrorist financing
    2. Use of formal and informal channels of funds for terrorism
    3. Emerging technologies and terrorist financing
    4. International cooperation to address challenges in combating terrorist financing

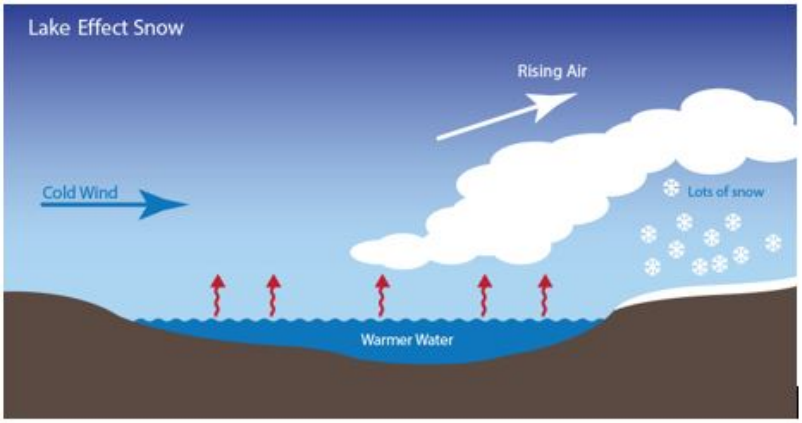
References

1. PIB | 'No Money for Terror' Ministerial Conference
2. Live Mint | 'No Money for Terror' meet
3. The Hindu | Third edition of the 'No Money For Terror' Conference

Lake-effect Snow

Lake-effect snow, the extreme snowfall events happen periodically along the eastern edges of the Great Lakes.

- Lake effect snow forms when cold, dry air mass moves over the unfrozen and relatively warm waters of a lake.
- The warmth and moisture from the lakes are transferred into the atmosphere.
- After cooling, moisture then gets dumped downwind as snow.
- This phenomenon is called ‘Lake-effect snow’.



- **Factors** - Lake-effect snow is strongly influenced by the differences between the amount of **heat and moisture** at the lake surface and in the air a few 1000 feet above it.
- **Higher difference** (14°C or more) favours the conditions to suck water up from the lake, thus more snowfall happens.
- Lake-effect snow often happens in **late fall**, when lake water is still warm from summer and cold air starts sweeping down from Canada.
- **Role of Climate change** - To an extent, climate change plays a role in the lake-effect snow.
- Models predict that with additional warming, more lake-effect snow will occur.

References

1. The Hindu | What is lake-effect snow?

Battle of Rezang La

India has recently observed the 60th anniversary of Battle of Rezang La.

- The battle was fought between Indian and Chinese troops on the south-eastern ridge of the Chushul Valley of Eastern Ladakh.
- 120 brave soldiers from the Charlie (C) Company of 13 Kumaon Regiment led by Major Shaitan Singh fought against the Chinese People's Liberation Army.
- In 2021, Union Defence Ministry inaugurated the revamped Rezang La war memorial in Eastern Ladakh.

Rezang La

- Rezang La is a mountain pass on the Line of Actual Control between Indian-administered Ladakh and the Chinese-administered Spanggur Lake basin.
- The pass is located on the eastern watershed ridge of the Chushul Valley.
- Rezang La is, therefore, vital for the defence of the crucially important Chushul.
- Any invader reaching there would have had a free run to Leh.
- With Rezang La, India gets a clear view of the Spanggur Gap, China's Moldo Garrison and also of the Spanggur Lake.

References

1. First Post | India revamps Rezang La memorial
2. Indian Express | Battle of Rezang La

Melocanna baccifera

A study spanning 13 years has shed interesting light on flowering in Melocanna baccifera, a tropical bamboo species.

- Melocanna baccifera, also called as 'Muli' in northeast India, is the largest fruit-producing tropical bamboo species.
- It is native to the northeast India-Myanmar region.
- During its gregarious flowering, the bamboo produces large fruits which draw animal visitors/predators.
- Of these, black rats greatly relish the fleshy, berry-like fruit.

Gregarious flowering refers to the phenomenon when all populations of a

particular species flower roughly at the same time.

- During this period, rats also multiply rapidly, a phenomenon dubbed as ‘rat flood.’
- Once the fruits are gone, they start devouring standing crops, causing famines that have claimed thousands of human lives.
- Earlier, it was presumed that ‘high protein in fruits/seeds’ was attracting the rats.
- But, a study in 2016 found that the fruit actually contains very little protein and the predation is mainly due to the high content of sugars.
- The bamboo fruit and flower entice an astonishing variety of visitors/predators.
- They include pollen predators (honey bees), fruit predators (millipedes, slugs and snails, fruit borers, monkeys, rats, porcupines, wild boars and palm civets), seedling predators (rabbits, deer), and insect/pest predators (ants, mantis).

Reference

The Hindu | Sweet not Protein in Bamboo Fruits