# Prelim Bits 23-09-2019

## Sagittarius A

- It is a supermassive black hole sits 26,000 light years away from Earth, near the 'Galactic Centre' or the centre of the 'Milky Way'.
- Since the discovery of **Sagittarius A** 24 years ago, it has been fairly calm.
- This year, however, **Sagittarius A** has shown unusual activity, and the area around it has been much brighter than usual.
- Reason for this unusual activity,

1. Sagittarius A may become hungrier and has been feeding on nearby matter at a faster rate, it is described as a **"Big feast"**.
2. A black hole does not emit light by itself, but the matter that it consumes can be a source of light.
3. Sagittarius A could be growing faster than usual in size.
4. The current model that measures its level of brightness maybe inadequate and is in need of an update.

- Another possibility involves a bizarre object known as **G2.**

1. It is most likely a pair of binary stars, which made its closest approach to the black hole.
2. It is possible the black hole could have stripped off the outer layer of G2.
3. This could help explain the increased brightness just outside the black hole.

## Marsiya Poetry in India

- The word 'Marsiya' means **'Elegy'**, meaning a poem which is a lament for the dead.
- Recently, Former Vice President, praised Marsiya tradition of Urdu poetry, calling the art form an important part of **'Adab'** (literature)
- Marsiya poetry, holds special significance for **Shia Muslims**.
- It is a form of literary expression that is dedicated to describing the persona of 'Imam Hussain',

1. He is the grandson of the Prophet and a revered figure in the Islamic world.
2. He and his kin underwent hardships during the historic Battle of Karbala.
3. It praise his family members who died at the Battle of Karbala in the year 680 CE in present-day Iraq.

- Marsiya is typically read in the month of Muharram.
- The Marsiya tradition first evolved in Delhi and the Deccan.
- It reached its zenith under the patronage of the Nawabs of Lucknow,

1. He encouraged the art form in 18$^{th}$ and 19$^{th}$ centuries around the same time when Mughal power was steadily receding.

- Its most iconic poets are **'Mir Anis'** and **'Mirza Dabir'**, who made a profound impact on Marsiya.
- Marsiya is usually sung, and set to Indian Ragas, creating a fusion of music and poetry.

## Happy Seeder (HS) and it affects on Wheat yield

- Recently, Punjab C.M faced opposition from farmers**,** when he said that,

1. Using 'Happy Seeders' (**HS**) for direct wheat sowing leads to increased productivity,
2. hence farmers must 'stop burning paddy stubble' to clear the fields.

- 'Happy Seeder' (HS) or 'Turbo Happy Seeder' (THS) is a tractor-operated machine.
- It is developed by the Punjab Agricultural University **(PAU)** in collaboration with Australian Centre for International Agricultural Research (**ACIAR**).

1. It is for in-situ management of paddy stubble (straw).

- It costs around Rs 1.50 to 1.60 lakh and is manufactured by different companies.
- The agriculture department gives 80% subsidy to farmer groups and 50% subsidy to individual farmers.
- The average wheat yield a farmer gets using traditional sowing method (after burning stubble) is 19-22 quintal/acre.
- By using Happy Seeder, in the first year, the yield was 17 q/acre but after that it's increased to 19-22 q/acre.

1. Initially, farmers faces problems because after sowing with **HS**, fields require proper management.

- According to farmers, Happy Seeder doesn't work on thick bunches of straw left behind, so it made them to burn stubble.
- According to experts, wheat yield will start increasing after 2-3 years, as the stubble will add to the organic quality of the soil.

## Solar Power – a UNEP report

- Solar power is set to drive the global investment in new renewable energy capacity according to a report by **UNEP**.
- Globally, the solar power capacity added 638 GW during 2010-2019.
- The report, has been released ahead of the UN Climate Action Summit 2019, tracked trends and opportunities in the renewable sector since 2004.
- Investment in renewable energy capacity hit $272.9 billion worldwide in 2018, exceeding investments in new fossil fuel generation.
- Capacity investment in renewable energy in developing countries outweighed those in developed countries for the 4$^{th}$ consecutive year.
- The capacity investment in developing countries, excluding China and India, reached 22% up than the previous year (2018).
- However Investments in China and India, on the other hand, together fell 36%.
- Developed economies invested $125.8 billion, 10% higher than the previous year (2018).
- Middle East and Africa region saw capacity allocations jump 61% in 2018.
- A slowdown in fossil fuel subsidies, which runs into billions of dollars every year, has indicated a shift towards renewables.
- **1.1 billion people** still lack access to electricity globally, access can be given through technologies like off-grid solar power.
- The cheapest option in many countries around the world is either solar or wind.

**Source: PIB, The Indian Express, Down To Earth**

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