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News Analysis (15 Feb, 2019)

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Waste-to-Energy Plants

According to a recent study by the Centre for Science and Environment (CSE), **nearly half of India's waste-to-energy (WTE) plants**, meant to convert non-biodegradable waste, are **defunct**.

- Moreover, the existing plants are functioning at **low capacity**.
Since 1987, 15 WTE plants have been set up across the country. However, seven of these plants have since shut down.
- The key reasons for closure are the plants' **inability to handle mixed solid waste** and the **high cost of electricity** generated by them that renders it unattractive to power companies.
 - MSW (municipal solid waste) in India has **low calorific value** and **high moisture content**.
 - As most wastes sent to the WTE plants are **unsegregated**, they also have high inert content (inert materials like soil, sand, grit, etc).
 - These wastes are **not suitable for burning**, and therefore to burn them, **additional fuel is required** which makes these plants **expensive to run**.
- Despite this, the **NITI Aayog**, as part of the Swachh Bharat Mission, **envisages 800 Mega Watt** from WTE plants by 2018-19, which is **10 times the capacity** of all the existing WTE plants put together.
It even proposes setting up a **Waste-to-Energy Corporation of India**, which would construct incineration plants through PPP models.

Waste-to-Energy Plants

- A waste-to-energy or energy-from-waste plant **converts municipal and industrial solid waste into electricity and/or heat for industrial processing**.
- The energy plant works by burning waste at **high temperatures** and using the heat to make steam. The steam then drives a turbine that creates electricity.
- Apart from producing electricity, burning waste **also reduces the amount of**

material that would probably be buried in landfills. Burning MSW **reduces the volume of waste by about 80%**. Thereby offering a number of **social and economic benefits** that cannot easily be quantified.

Advantages

- Most wastes that are generated find their way into land and water bodies without proper treatment, causing **severe water and air pollution**.
- Waste to energy generates **clean, reliable energy from a renewable fuel source**, thus **reducing dependence on fossil fuels**, the combustion of which is a **major contributor to Greenhouse Gas (GHG) emissions**.
- In addition to energy generation, waste-to-energy can **fetch significant other benefits** like:
 - Success in municipal solid waste management could lead to opportunities in **other waste such as sewage waste, industrial waste and hazardous waste**.
 - Waste to Energy opportunities exist not just in India but all over the world. Thus, there could be **significant international expansion possibilities for Indian companies**, especially expansion into other Asian countries.

Challenges

- Waste-to-Energy is **still a new concept** in India.
 - Most of the proven and commercial technologies in respect of urban wastes are required to be **imported**.
- The **costs of the projects are high** as critical equipment for a project is required to be imported.
- In view of **low level of compliance of Solid Waste Management Rules, 2016** by the Municipal Corporations/ Urban Local Bodies, segregated municipal solid waste is generally not available at the plant site, which leads to non-availability of waste-to-energy plants.
- **Lack of financial resources** with Municipal Corporations/Urban Local Bodies.
- **Lack of conducive policy guidelines** from State Governments in respect of allotment of land, supply of garbage and power purchase / evacuation facilities.
- The WTEs have also **triggered widespread criticism from citizens**. For instance, there has been a continuous protest against the Okhla WTE plant in Delhi for polluting the environment.

Way Forward

- In the context of **climate change, focus on renewable source of energy and burgeoning population**, the WTEs approach is needed to address the **growing energy need in a sustainable way**. However, it is also important to ensure their

effectiveness.

- For this, **Urban local bodies (ULBs) should invest** in preparing an action plan on waste management in **accordance with the Solid Waste Management (SWM) rules, 2016** within a time-bound approach and promote and adopt the key elements of waste hierarchy as **refuse, reduce, reuse, recycle and recover.**
 - It is also important to focus on **segregation at source, spreading awareness, preparing an action plan** for the city for waste management by adopting decentralised technologies. This will not only improve effectiveness of WTEs, but will also ensure protection and improvement of our environment as **envisaged in Article 51 A(g) of our Constitution.**
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NASA's Opportunity Rover Mission Ends

Opportunity, a NASA rover to the surface of Mars, has stopped communicating with Earth after 15 years of service.

NASA lost contact with the solar-powered vehicle on June 10, 2018, after a dust storm. Dust covered the solar panels of the rover due to which the rover was unable to charge its batteries.

About Opportunity Mission

- **Type:** Lander/Rover
- **Launch Date:** July 07, 2003
- **Landing Date on Mars:** January 25, 2004
- **Target:** Mars

Significance

- **Technology Demonstration**

The opportunity rover mission was to end within three months with the objective to drive up to 1 km on the Martian surface. But the Opportunity Rover covered almost 45 km and lasted for around 15 years on the Mars.

- **History of Mars**

Opportunity explored the craters on Mars and gathered evidence to prove that Mars once had water and was warm enough to possibly sustain life.

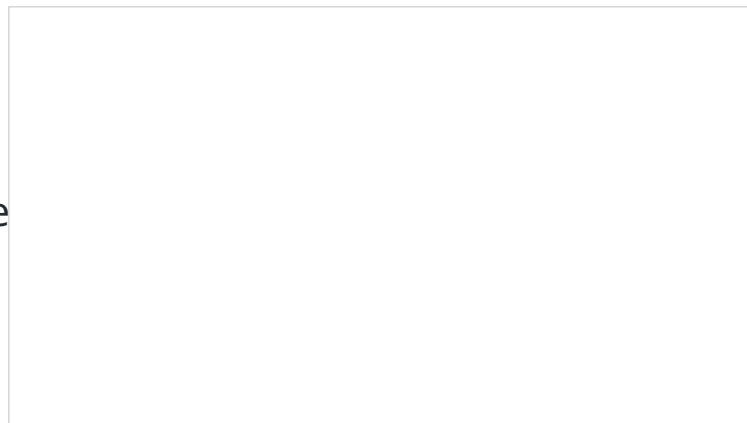


Telescope to Explore Origins of Universe: SPHEREx

NASA will launch a new space telescope mission **Spectro-Photometer for the History of the Universe, Epoch of Reionization and Ices Explorer (SPHEREx)** in 2023.

The launch could help astronomers **understand how the Universe evolved in the first place** and how common the **ingredients for life** are within it.

Missions' Objective



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- SPHEREx will **survey the sky in optical as well as near-infrared light.**
 - Astronomers will use the mission to **gather data on more than 300 million galaxies,** as well as more than **100 million stars in Milky Way.**
 - The mission will create a **map of the entire sky in 96 different colour bands.**

Significance

- SPHEREx's main goal is **to search for the fundamentals of life — water and organic matter** within the Milky Way.
- Beyond Milky Way, it will also be **looking at the wider regions of the universe, where stars are born.**
This will give scientists targets for more detailed study in future missions, like **NASA's James Webb Space Telescope** and **Wide-Field Infrared Survey Telescope.**
- It will deliver an unprecedented **galactic map containing 'fingerprints' from the first moments in the universe's history.**
- It will provide **new clues** to one of the greatest mysteries in science that **what made the universe expand so quickly less than a nanosecond after the Big Bang.**

James Webb Space Telescope

- The James Webb Space Telescope (also called JWST or Webb) will be a **large infrared telescope** with a 6.5-meter primary mirror. The telescope will be launched on an Ariane 5 rocket from French Guiana in **2021.**
- It will **study every phase in the history of our Universe**, ranging from the first luminous glows after the **Big Bang**, to the **formation of solar systems** capable of supporting life on planets like Earth, to the evolution of our own Solar System.
- Webb is an **international collaboration** between **NASA**, the **European Space Agency** (ESA), and the **Canadian Space Agency** (CSA).

Wide Field Infrared Survey Telescope (WFIRST)

WFIRST is a NASA mission designed to **study dark energy, perform galactic and extragalactic surveys, and explore exoplanets.**

Pradhan Mantri Shram Yogi Maan-dhan (PM-SYM)

PM- SYM) which was recently announced in the Interim Budget-2019 will be implemented from February 15, 2019 by the **Ministry of Labour and Employment.**

- PM-SYM is a **Central Sector Scheme** administered by the **Ministry of Labour and Employment and implemented through Life Insurance Corporation of India and Community Service Centers (CSCs). LIC will be the Pension Fund Manager and responsible for Pension pay out.**
- This scheme seeks to benefit around 42 crore workers from the **unorganized sector** of the country.

Eligibility

- The unorganised workers (home based workers, street vendors, mid-day meal workers, head loaders, landless labourers and similar other occupations) whose **monthly income is Rs 15,000/ per month or less.**
- The Subscriber should belong to the **entry age group of 18-40 years.**
- The subscriber will be required to have a **mobile phone, savings bank account and Aadhaar number.**
- They should not be covered under **New Pension Scheme (NPS), Employees' State Insurance Corporation (ESIC) scheme or Employees' Provident Fund Organisation (EPFO).**
- He/She should **not be an income tax payer.**

Salient Features

- **Minimum Assured Pension:** Each subscriber shall receive **minimum assured pension of Rs 3000/- per month** after attaining the **age of 60 years.**
- **Family Pension:** During the receipt of pension, if the subscriber dies, the spouse of the beneficiary shall be entitled to receive 50% of the pension received by the beneficiary as family pension. Family pension is applicable only to spouse.
If a beneficiary has given regular contribution and died due to any cause (before age of 60 years), his/her spouse will be entitled to join and continue the scheme subsequently by payment of regular contribution or exit the scheme as per provisions of exit and withdrawal.
- **Contribution:** The subscriber's contributions shall be made through '**auto-debit**' facility from **his/ her savings bank account/ Jan- Dhan account.**
PM-SYM functions on a **50:50 basis** where prescribed age-specific contribution shall be made by the **beneficiary and the matching contribution by the Central Government.**

SC Judgement on Delhi-Centre Tussle

The Supreme Court (SC) has delivered a split verdict on the contentious issue of division of powers between the Delhi government and the Central government over control of services, covering issues like transfer of officials, and referred the matter to a larger bench.

Background

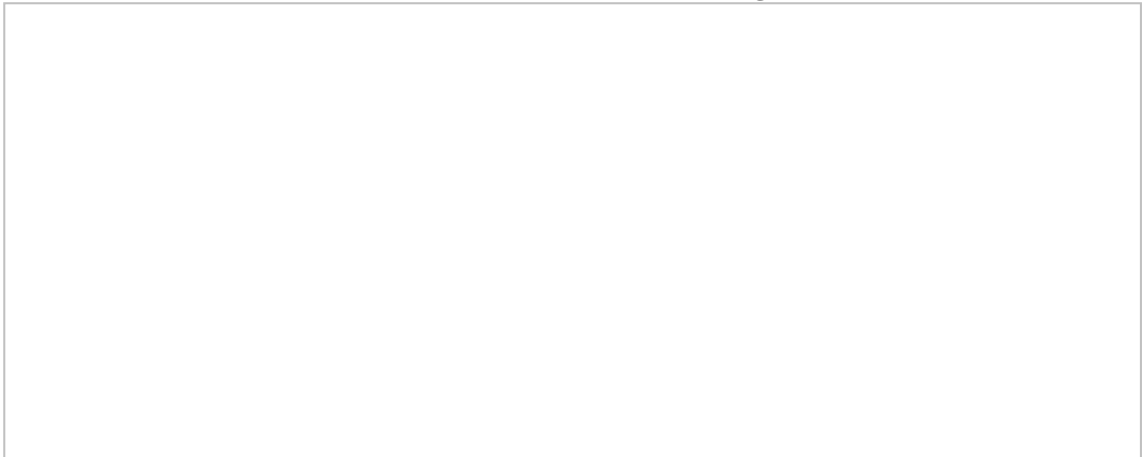
- In June 2018, a five-judge Constitution Bench ruled that decisions of the Delhi government will not require the concurrence of the Lieutenant-Governor, except in matters relating to Land, Home, and Public Order.

- However, that judgment was silent on matters relating to services and other issues.
- Recently a number of petitions were filed challenging various notifications including on control of services and power of Anti-Corruption Bureau (ACB).
- The SC gave a verdict on the remaining issues recently.

SC Judgement

- **Control of Services in National Capital**

- The bench differed on the issue of control of services in the national capital.
- Justice Sikri said that to facilitate smooth governance in Delhi, transfer, and posting of secretaries and Head of Departments can be done by Lieutenant Governor (LG) while in case of officer of Delhi, Andaman and Nicobar Islands Civil Service (DANICS) and Delhi, Andaman and Nicobar Islands Police Service (DANIPS), the files need to be sent from the council of ministers to the LG.
- Justice Bhushan, however, differed with the opinion expressed by Justice Sikri and said that under the law, the Delhi government has no power to exercise control over services.
- After the difference of opinion on the issue of control of services, the bench decided that the matter needs to be referred to a larger bench.



- **Exclusion of the jurisdiction of the Anti-Corruption Branch (ACB) of the Delhi government to investigate officers of Central government**

- The Supreme Court has stated that the anti-corruption bureau is under the exclusive authority of the lieutenant governor and Delhi government has no power in this regard.
- SC also said that ACB is not empowered to investigate the offenses of Central Government employees under the Prevention of Corruption Act. Admittedly, this investigation is carried out by the CBI. Therefore, it leads to a conflict of jurisdiction as well.

- **Power to set up Commission Of Inquiry**

SC has held that the Delhi state government has no power to set up an inquiry commission to probe corruption cases.

- **The power to appoint the Special Public Prosecutor**

SC held that Lieutenant Governor while appointing the Special Public Prosecutor, is to act on the aid and advice of the Council of Ministers.

Article 239 AA and 239AB

- The 69th Amendment Act, 1992 has added two new Articles 239AA and 239AB under which the Union Territory of Delhi has been given a special status.
- Art. 239AA provides that the Union Territory of Delhi shall now be called the National Capital Territory of Delhi and its administrator shall be known as Lt. Governor.
- It also creates a legislative assembly for Delhi which can make laws on subjects under the State List and Concurrent List except on these matters: public order, land, and police.
- Article 239AB provides that the President may by order suspend the operation of any provision of Article 239AA or of all or any of the provisions of any law made in pursuance of that article. This provision resembles Art.356 (President's Rule)
- It also provides for a Council of Ministers for Delhi consisting of not more than 10% of the total number of members in the assembly.

Important Facts for Prelims (15th February 2019)

Taj View Garden

- Recently **Ministry of Culture** and **Ministry of Environment, Forest and Climate Change**, laid the Foundation Stone of **Taj View Garden** on the Taj Corridor Area **between the Agra Fort and Taj Mahal in Agra**.
- The main purpose is to increase greenery by enormous plantation around the Taj Mahal which will not only help to reduce the pollution around the Taj Mahal but also provide a pleasant view to the visitors.
- The Taj View Garden is being developed on the **Mughal period Charbagh garden pattern** by the Archaeological Survey of India.
- **Charbagh** is a **Persian quadrilateral garden** layout based on the **four gardens representing the Islamic ideal of paradise**. The quadrilateral garden is divided by walkways or flowing water into four smaller parts.
- They are found in countries throughout **Western Asia** and **South Asia**, including **Iran** and **India**.
- In India, the Char Bagh concept is epitomised in **Humayun's Tomb (Delhi)** and **Taj Mahal (Agra)**.

India signs defence pacts with Germany and Sweden

- **India** has concluded **defence cooperation and security protection agreements** with **Germany** and **Sweden** during the ongoing visit of Defence Minister to both the countries.
 - **India and Sweden** have concluded a **security protection agreement** that will enable **both countries to share classified information with each other.**
 - India and Sweden have had a memorandum of understanding on cooperation in the area of defence since 2009.
 - Earlier in **Germany**, Defence Minister signed an implementing arrangement on **enhanced defence and defence industry cooperation** to **strengthen military to military engagement** as well as defence industry and **research and development linkages.**
 - Both **Germany** and **Sweden** are **important suppliers of defence equipment to India** and their companies are currently in the race for multi-billion tenders to supply submarines and fighter aircraft.
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