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Oldest Water on Earth

- In 2009, the world's oldest water (1.6 billion years old) was discovered from Kidd Creek mine on the 2.7 billion-year-old Canadian Shield.
- [The age of this highly saline water (ten times saltier than sea water) was found using mass spectrometer in the UK's Oxford University.]
- The discovery of this water 2.4 km below the Earth's surface will help in understanding the origin and evolution of Earth, the nature of water and life, as well as the possibility of finding life on Mars.
- Investigations into the highly saline water led to a discovery of **chemolithotrophic microbes** (bacteria that can thrive in the extreme surroundings) had been able to survive in the subterranean liquid.
 - The microbes had been feeding on nitrogen and sulphate, and that the chemistry that supported them bore resemblance to ocean beds that are known to support similar such extreme life forms.
- Being a continental shield, which suffers the least from plate tectonic activity, the Canadian Shield is the closest analogue on Earth to the subsurface of Mars.
- Scientists argue that if life-supporting water can be found 2.4 km below the Earth, it may be possible that the same could be the case in Mars.
- This hypothesis provides an impetus for missions like Perseverance, which are looking for signs of present or past life on Mars.

Canadian Shield

- The Canadian Shield is one of the world's largest continental shields i.e. the oldest and least tectonically active parts of the Earth's crust.
- In the past, the Canadian Shield used to form an ocean floor. Over millions of years of flux, however, its horizontal seabed became vertical, now preserved in the mine's rock walls.

EatSmart Cities Challenge

• Ministry of Housing and Urban Affairs launched the EatSmart Cities Challenge which is a competition among cities to recognize their efforts in adopting and scaling up the initiatives under Eat Right India.

- [The 'Eat Right India' movement was initiated by Food Safety and Standards Authority of India (FSSAI) under the aegis of Ministry of Health & Family Welfare.]
- This unique challenge, in partnership with Smart Cities Mission will,
 - 1. Motivate Smart Cities to develop a plan that supports a healthy, safe and sustainable food environment with the support of institutional, physical, social, and economic infrastructure.
 - 2. Strengthen the food safety and regulatory environment,
 - 3. Urge the consumers to make better food choices in India's major cities and can set an example for other cities to follow.
- The challenge is open to all Smart Cities, capital cities of States /UTs, and cities with a population of more than 5 lakh.
- At the end of first phase of the challenge, 11 cities will be selected for deeper engagement for an extended period to implement their vision.
- EatSmart Cities Challenge is an opportunity for India to play a pioneering role in integrating food systems into city planning and development to provide people with healthy, safe, and nourishing diets.

Transport4all Challenge

- Ministry of Housing and Urban Affairs in collaboration with Institute for Transportation & Development Policy (ITDP) launched the Transport 4 All Challenge that will support cities to recover from mobility crisis.
- The first edition of the Transport4All Challenge focuses on digital innovation in urban mobility.
- It aims to bring together cities, citizen groups, and start-ups to develop solutions that improve public transport to better serve the citizens' needs
- At the core of the Challenge are citizens who will define the problems for which solutions shall be created and also help start-ups and cities to refine the solutions to meet their needs.
- The challenge is open to all Smart Cities, capital cities of States /UTs, and cities with a population of more than 5 lakh.
- $\bullet \ Transport 4 All \ Digital \ Innovation \ Challenge \ comprises \ three \ stages:$
 - Stage I PROBLEM IDENTIFICATION: Cities, with the support of NGOs, identify key recurring problems that citizens and public transport operators face
 - 2. Stage II SOLUTION GENERATION: Start-ups develop prototypes of solutions to improve public transport with inputs from cities and NGOs
 - 3. Stage III PILOT TESTING: Cities engage start-ups for large-scale pilots and refine the solutions based on citizen feedback
- Cities shall form a Transport4All Task Force (TTF) consisting of key stakeholders vis. Municipal Corporation, Smart City SPV, Intermediate

Government of National Capital Territory Amendment Act, 2021

- The Government of National Capital Territory of Delhi (GNCTD) Amendment Act, 2021 that amends the Sections 21, 24, 33 and 44 of the GNCTD Act, 1991 has come into force.
- [The GNCTD Act, 1991 provides a framework for the functioning of the Legislative Assembly and the government of the NCT of Delhi.]
- Restriction on laws passed by the Assembly The Amendment Act provides that the term "government" referred to in any law made by the Legislative Assembly will imply Lieutenant Governor (LG).
- Rules of Procedure of the Assembly The Rules of procedure and conduct of business in the Assembly made by itself must be consistent with the Rules of Procedure and Conduct of Business in the Lok Sabha.
- Inquiry into administrative decisions The Amendment prohibits the Assembly from making any rule to enable itself or its Committees to,
 - 1. Consider the matters of day-to-day administration of the NCT
 - 2. Conduct any inquiry in relation to administrative decisions.
- Further, all such rules made before its enactment will be void.
- **Assent to Bills** The Act requires the LG to reserve some Bills passed by the Assembly for the President's consideration. These Bills are those,
 - 1. Which may diminish the powers of the High Court of Delhi,
 - 2. Which the President may direct to be reserved,
 - 3. Dealing with the salaries and allowances of the Speaker, Deputy Speaker, and members of the Assembly and the Ministers, or
 - 4. Relating to official languages of the Assembly or the NCT of Delhi.
- The Amendment requires the LG to also reserve those Bills which cover any of the matters outside the purview of the powers of the Assembly.
- **LG's opinion for executive actions** The Act specifies that all executive action by the government, whether taken on the advice of the Ministers or otherwise, must be taken in the name of the LG.
- The Amendment Act adds that on certain matters, as specified by the LG, his
 opinion must be obtained before taking any executive action on the decisions
 of the Minister/ Council of Ministers.

Compensation of Mutual Fund Managers

- The Securities and Exchange Board of India (SEBI) has notified some changes to the rules of the compensation of mutual fund (MF) managers and other key personnel in an asset management company (AMC).
- Key personnel The likes of chief executive officer, chief investment officer,

research head and their direct reportees.

- **Minimum 20%** of the compensation to these key personnel should be in the form of units of the MF schemes they manage i.e. compensation is linked to performance.
- The SEBI has specified the rules of allocation of this 20% by saying that it should be proportional to the assets under management of the schemes in which an employee has a role or oversight.
- It has also specified that these units offered by way of compensation are locked-in for three years.
- **Benefits** It will boost the transparency and accountability of compensation. It will ensure that fund houses actually link the pay of fund managers to performance.
- Besides, since many employees' compensation is linked to how well a MF is doing, it could encourage whistleblowing.
- It will give psychological comfort to investors that their fund manager has skin in the game.

Goa Infrastructure Projects

- The Central Empowerment Committee (CEC) of the Supreme Court asked the SC to consider revoking the permission granted for the doubling the railway line from Castle Rock (Karnataka) to Kulem (Goa).
- The CEC has raised concerns over the environmental impact of the double-tracking project saying that it will destroy the fragile eco-system of the Western Ghats.
- The CEC examined the proposals cleared by the Standing Committee of the National Board for Wildlife (SC-NBWL) for the three linear projects within the boundaries of Wildlife Sanctuary and National Park in Goa,
 - 1. Double-tracking of railway tracks,
 - 2. Four-laning of a national highway, and
 - 3. Goa-Tanmar Transmission Project.
- These projects will cut through the <u>Bhagwan Mahaveer Wildlife Sanctuary</u> (<u>BMWS</u>) and <u>Mollem National Park (MNP</u>) in South Goa.
- These projects were alleged violating the 2015 Supreme Court order on matters relating to the National Park I Wildlife Sanctuaries and contravention of the Wild Life (Protection) Act, 1972.

Source: PIB, The Indian Express, PRS

