

GOVERNANCE**2nd Phase of SBM-U**

Recently, the Prime Minister launched the second phase of Swachh Bharat Mission-Urban (SBM-U 2.0). The Ministry of Housing and Urban Affairs (MoHUA) is the nodal ministry for the scheme.

Key Points**About:**

- SBM-U 2.0, announced in Budget 2021-22, is the continuation of SBM-U first phase. The government is trying to tap safe containment, transportation, disposal of faecal sludge, and septage from toilets.
- SBM-U first phase was launched on 2nd October 2014 aiming at making urban India Open Defecation Free (ODF) and achieving 100% scientific management of municipal solid waste. It lasted till October 2019.
- It will be implemented over five years from 2021 to 2026 with an outlay of Rs.1.41 lakh crore

Aim:

- It focuses on source segregation of garbage, reduction in single-use plastic and air pollution, by effectively managing waste from construction and demolition activities and bioremediation of all legacy dump sites.
- Under this mission, all wastewater will be treated properly before it is discharged into water bodies, and the government is trying to make maximum reuse a priority.

Mission outcomes:

- All statutory towns will become ODF+ certified (focuses on toilets with water, maintenance and hygiene)
- All statutory towns with less than 1 lakh population will become ODF++ certified (focuses on toilets with sludge and septage management).
- 50% of all statutory towns with less than 1 lakh population will become Water+ certified (aims to sustain toilets by treating and reuse of water).
- All statutory towns will be at least 3-star Garbage Free rated as per MoHUA's Star Rating Protocol for Garbage Free cities.
- Bioremediation of all legacy dumpsites.

Progress under SBM-U Phase -I:

- 4,324 urban local bodies have been declared Open Defecation Free, which has been made possible through the construction of more than 66 lakhs individual household toilets and over 6 lakhs community/public toilets, far exceeding the Mission's targets.
- Digital enablements such as Swachhata App, the digital grievance redressal platform introduced by MoHUA in 2016, has reinvented the way in which citizen grievance redressal is managed.
- Swachh Survekshan, the world's largest urban cleanliness survey covering over 4,000 Urban Local Bodies was initiated under SBM-Urban in 2016.

ECONOMY**Pandora Papers Leak**

Recently, several prominent Indian names have been included in the Pandora Papers leak. There are over 300 Indian names in the leak, including over 60 prominent ones. Pandora Papers are 11.9 million leaked files from 14 global corporate services firms which set up about 29,000 off-the-shelf companies and private trusts.

Key Points**About:**

- The Pandora Papers reveal how trusts are used as a vehicle in conjunction with offshore companies set up for the sole purpose of holding investments and other assets by business families and ultra-rich individuals.
1. The trusts can be set up in known tax havens which offer relative tax advantages.
 2. For Example: Samoa, Belize, Panama, and the British Virgin Islands.

- They reveal how the rich set up complex multi-layered trust structures for estate planning, in jurisdictions which are loosely regulated for tax purposes, but characterised by air-tight secrecy laws.
- Businesses have created a new normal after countries have been forced to tighten the laws on such offshore entities with rising concerns of money laundering, terrorism funding, and tax evasion. The Panama and Paradise Papers dealt largely with offshore entities set up by individuals and corporations respectively.

Reasons for Setting up Trusts Overseas:

- **Secrecy:** Overseas trusts offer remarkable secrecy because of stringent privacy laws in the jurisdiction they operate in.
- **Maintain a Degree of Separation:** Businesspersons set up private offshore trusts to project a degree of separation from their personal assets.
- **Avoid Tax in the Guise of Planning:** Businesspersons avoid their Non-resident Indians (NRI) children being taxed on income from their assets by transferring all the assets to a trust.
- **Prepare for Estate Duty Eventuality:** There is a pervasive fear that estate duty, which was abolished back in 1985 will likely be re-introduced soon. Setting up trusts in advance will protect the next generation from paying the death/inheritance tax, which was as high as 85% in the more than three decades after its enactment (The Estate Duty Act, 1953).
- **Flexibility in a Capital-Controlled Economy:**
 1. India is a capital-controlled economy. Individuals can invest only USD 2,50,000 a year under the Reserve Bank of India's Liberalised Remittance Scheme (LRS).
 2. To get over this, businesspersons have turned to NRI, and under Foreign Exchange Management Act, 1999, NRIs can remit USD 1 million a year in addition to their current annual income, outside India. Further, the tax rates in overseas jurisdictions are much lower than the 30% personal Income-Tax rate in India

Grey Areas of Indian Taxation:

- There are certain grey areas of taxation where the Income-Tax Department is in contest with offshore trusts.
- After the Black Money (Undisclosed Foreign Income and Assets) and Imposition of Tax Act, 2015, came into existence, resident Indians have to report their foreign financial interests and assets. NRIs are not required to do so.
- The I-T Department may consider an offshore trust to be a resident of India for taxation purposes if the trustee is an Indian resident.
- In cases where the trustee is an offshore entity or an NRI, if the tax department establishes the trustee is taking instructions from a resident Indian, then too the trust may be considered a resident of India for taxation purposes.

Government's Initiatives:

- **Legislative Action:**
 1. The Fugitive Economic Offenders Act, 2018
 2. The Central Goods and Services Tax Act, 2017
 3. The Benami Transactions (Prohibition) Amendment Act, 2016
 4. The Black Money (Undisclosed Foreign Income and Assets) and Imposition of Tax Act, 2015
 5. Prevention of Money Laundering Act, 2002.
- **International Cooperation:**
 1. **Double Taxation Avoidance Agreements (DTAAs):** India is proactively engaging with foreign governments with a view to facilitate and enhance the exchange of information under Double Taxation Avoidance Agreements (DTAAs)/Tax Information Exchange Agreements (TIEAs)/Multilateral Conventions.
 2. **Automatic Exchange of Information:** India has been a leading force in the efforts to forge a multilateral regime for proactive sharing of financial information known as

Automatic Exchange of Information which will greatly assist the global efforts to combat tax evasion.

- 3. Foreign Account Tax Compliance Act of USA:** India has entered into an information sharing agreement with the USA under the act.

ENVIRONMENT & BIODIVERSITY

Marine Protected Areas in Antarctica

India has extended its support for protecting the Antarctic environment and for co-sponsoring the proposal of the European Union for designating East Antarctica and the Weddell Sea as Marine Protected Areas (MPAs). The Southern Ocean, also called Antarctic Ocean, is a body of salt water covering approximately one-sixteenth of Earth's total ocean area.

Key Points

Marine Protected Areas:

- In general terms, a Marine Protected Area (MPA) is a marine area that provides protection for all or part of the natural resources it contains.
- Within an MPA, certain activities are limited, or entirely prohibited, to meet specific conservation, habitat protection, ecosystem monitoring or fisheries management objectives.
- MPAs do not necessarily exclude fishing, research or other human activities; in fact, many MPAs are multi-purpose areas.
- The Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) has agreed a framework that describes the objectives and requirements for establishing MPAs.

MPAs in Antarctica:

- Currently, only 5% of the Southern Ocean is protected. MPAs were established in the South Orkney Islands in 2009 and the Ross Sea region in 2016.
- Another three proposals for MPAs are being considered for East Antarctica, the Weddell Sea, and the Antarctic Peninsula.
- MPA proposals are driven by conservation and sustainable utilization principles and adhering to the global cooperation frameworks (such as Sustainable Development Goals, UN Decade of Oceans, Convention on Biodiversity, etc.) India is a signatory to these conventions or agreements.
- India urged the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) member countries to ensure that India remains associated with the formulation, adaptation and implementation mechanisms of these MPAs in future.

Need to Establish MPAs:

- The health of the Southern Ocean is driven by changes to the ocean itself - such as:
 1. Ocean Acidification
 2. Changes in sea-ice concentration
 3. Events triggered by climate change such as heat waves and extreme weather.
- These changes affect the marine ecosystem and species of the Antarctic region.
- Further, in response to these impacts, the threat of new and invasive species in the Southern Ocean is growing and endemic marine species like penguins are experiencing a historic die-off.
- Apart from this there is a rapid increase in melting of glaciers in Antarctica . For example, Thwaites Glacier.
- Studies show that MPAs can help vulnerable ecosystems build resilience to climate change by eliminating additional stresses such as fishing.
- In addition, their relatively undisturbed waters provide a natural laboratory for studying how intact marine ecosystems react to a warming and acidifying ocean.

About Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR):

- CCAMLR is a multilateral response to concerns that unregulated increases in krill catches in the Southern Ocean could be detrimental for Antarctic marine ecosystems particularly for seabirds, seals, whales and fish that depend on krill for food.

- CCAMLR was established by international convention in 1982 with the objective of conserving Antarctic marine life.
- An important feature of CCAMLR is the ecosystem approach to conservation, requiring that the effects on the ecosystem must be taken into account in managing the harvesting of marine resources.
- It's Secretariat is located in Hobart, Tasmania, Australia.

India's Antarctic Missions

1. India is expanding its infrastructure development in Antarctica.
2. The newest base commissioned in 2015 is Bharati.
3. India is rebuilding its second station, Maitri, to make it bigger and last for at least 30 more years.
4. Dakshin Gangotri, the first Indian base established in 1984, has weakened and become just a supply base.

SCIENCE & TECHNOLOGY

Astro Robot

Recently, Amazon has unveiled its 'Astro' home robot, which is designed to help customers with a range of tasks like home monitoring and keeping in touch with family. However, civil society has highlighted the concerns of privacy issues of 24x7 surveillance.

Key Points

About Astro Robot:

- Astro is primed to be a home security device. It is designed to move around the home and keep a check on pets, and detect something unusual in the absence of the owner.
- It comes with a "periscope" camera that pops up from its head and can be used to keep an eye on the home.
- It is basically a combination of the Echo Show (smart speaker) and sophisticated Ring security camera integrated into one single device.
- The device captures live videos, recognises faces, plays music or videos, and delivers a beer across the home.
- It can recognise the faces of people and analyse them until it figures out if it's a family member or an outsider.

Issues Related to Privacy:

- Civil society is worried that the amount of data Amazon gets to fetch with the Astro, giving the company easy access to the household, This is going one step beyond Alexa which had access to vocals and sound until now. Amazon has asserted that Astro stores face data locally rather than in the cloud, but it is still a privacy concern as with any internet-connected device.
- There are concerns of stealing or hacking of the device. Due to this, the perpetrator can get access to the digital map that the robot creates of someone's home.
- The prime concern, in the long-run, could contribute to greater public acceptance of Artificial Intelligence-powered surveillance. In the past, hackers have managed to access Ring cameras, used in the devices of Amazon technologies.

Other Recent Experiments:

- Softbank earlier this year "suspended" the production of Pepper, one of the first humanoid robots able to "read" emotions.
- Jibo has started an Indiegogo project, which aims to build a world's first social robot for the home.

Robotics

About:

- Robotics is a branch of engineering that involves the conception, design, manufacture and operation of robots. Robot is any automatically operated machine that replaces human effort.
- The objective of the robotics field is to create intelligent machines that can assist humans in a variety of ways.

Advantages:

- In many situations robots can increase productivity, efficiency, quality and consistency of products.
 - Robots can work in environments which are unsafe for humans as they don't have the same environmental requirements that humans do – such as lighting, air conditioning or noise protection.
 - Robots have some sensors/actuators which are more capable than humans.
1. Unlike humans, robots don't get bored. Until they wear out, they can do the same thing again and again.
 2. They can be very accurate – to fractions of an inch (as is needed for example in manufacturing of microelectronics).

Disadvantages:

- The use of robots can create economic problems if they replace human jobs.
- Robots can only do what they are told to do – they can't improvise
- This means that safety procedures are needed to protect humans and other robots.
- Although robots can be superior to humans in some ways, they are less dexterous than humans. Robotics lack emotional intelligence, which plays a critical role in intense situations.
- Often robots are very costly – in terms of the initial cost, maintenance, the need for extra components and the need to be programmed to do the task.
- Surveillance concerns pose a problem of entering a privacy nightmare.

IMPORTANT FACTS FOR PRELIM**Drone-Based Vaccine Delivery Model: i-Drone**

Recently, the Ministry of Health and Family Welfare has launched a Drone-Based vaccine delivery model named, Drone Response and Outreach in North East (i-Drone). Drone is a layman terminology for Unmanned Aircraft (UA). There are three subsets of Unmanned Aircraft- Remotely Piloted Aircraft, Autonomous Aircraft and Model Aircraft.

Key Points**About:**

- Indian Council of Medical Research (ICMR) has devised the model to make sure that life-saving vaccines reach everyone.
- It has been designed to facilitate vaccine delivery to tough and hard-to-reach terrains of India.
- Currently, the drone based delivery project has been granted permission for implementation in Manipur and Nagaland, as well as union territory of Andaman and Nicobar Island. The permission was granted to the ICMR for conducting feasibility study of Covid-19 vaccine delivery using drones, in collaboration with IIT-Kanpur.

Significance:

- It will help in overcoming the gaps in current vaccine delivery mechanisms and can be used in delivering important life-saving medicines, collecting blood samples etc.
- This technology can also be used in critical situations. It can be a game changer in addressing the challenges in health care delivery, particularly health supplies in difficult areas.

Other Projects Using Drones:

- Telangana government has selected 16 Primary Healthcare Centres (PHCs) for pilot testing the ambitious 'Medicine from the sky', the first-of- its-kind project.
- The International Crops Research Institute (ICRISAT) was permitted to deploy drones for agricultural research activities, apart from some agriculture universities and educational institutions.

2. Nobel Prize for Physiology/Medicine, 2021

Recently, two United States-based scientists, David Julius and Ardem Patapoutian, have been awarded the 2021 Nobel Prize for Physiology/Medicine for their discoveries of receptors for

temperature and touch. They have focused their work on the field of somatosensation, that is the ability of specialised organs such as eyes, ears and skin to see, hear and feel.

Key Points

About the Discoveries:

- **David Julius:**

1. He discovered TRPV1, a heat-sensing receptor.
2. His findings on the skin's sense of temperature was based on how certain cells react to capsaicin, the molecule that makes chili peppers spicy, by simulating a false sensation of heat.

- **Ardem Patapoutian:**

1. He discovered two mechanosensitive ion channels known as the Piezo channels. The Piezo1 is named after the Greek word for pressure, 'píesi'.
2. He is credited for finding the cellular mechanism and the underlying gene that translates a mechanical force on our skin into an electric nerve signal.

- **Significance of Discoveries:**

1. The findings have allowed us to understand how heat, cold and mechanical force can initiate the nerve impulses that allow us to perceive and adapt to the world around us.
2. This knowledge is being used to develop treatments for a wide range of disease conditions, including chronic pain.

About Nobel Prizes

- The will of the Swedish scientist Alfred Nobel established the five Nobel prizes in 1895.
- The Nobel Prizes are a set of recognition given to fields of Chemistry, Literature, Peace, Physics, and Physiology or Medicine by The Nobel Foundation. The Nobel Foundation is a private institution established in 1900, has ultimate responsibility for fulfilling the intentions in Alfred Nobel's will.
- The prizes in Chemistry, Literature, Peace, Physics, and Physiology or Medicine were first awarded in 1901.
- In 1968, Sveriges Riksbank established the Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel.

DAILY ANSWER WRITING PRACTICE

Qns. In reference to start-ups, what is a Unicorn? With the right regulatory ambience and local sources of funding, India can create a truly innovative and resilient economy amidst the Unicorn boom of 2021. Examine. (250 words)

Ans:

Introduction

In the venture capital industry, the term unicorn refers to any startup that reaches the valuation of \$1 billion. The term was first coined by venture capitalist Aileen Lee in 2013. Mostly, all the unicorns have brought a disruption in the field they belong to. Uber, for example, changed the way people commuted. Airbnb changed the way people planned their stay while travelling and Snapchat disrupted the usage of the social media network etc.

India currently stands third in the global list of the number of companies that have attained unicorn status.

Body

Challenges faced by unicorns in India

- **Capital:** For running a company from being startup to unicorn, a significant amount of working capital is required. Many startups, especially at early stages, are bootstrapped, i.e. self-funded through the founders' own savings, or using capital from friends and family.
- **Complex regulatory environment:** The government of India has introduced policies that aim to ease the business environment for startups. However, the present regulatory framework in which startups/unicorns operate is widely seen as difficult, inefficient and unpredictable.
- **Bureaucratic process:** Companies in India often feel encumbered by bureaucratic processes, which appear to lack underlying standards.

1. They have insufficient possibilities to find information, and there is little planning security about how long processes can take.
2. In addition, regulations can suddenly change or startups receive random notices.
3. As a result, startups have to find frustrating workarounds, waste valuable time or pivot their business model.
 - A further challenge for startups is to take their products to the market as Indian markets appear difficult to penetrate.
1. One reason is the competitive landscape: Often, many firms are already present and many more enter the market, including copycats.
 - On the one hand, this is due to the fact that big market players are more capable of dealing with bureaucratic regulations. On the other hand, public procurement is seen as weak and government prefers to sign contracts with established companies.
 - For many job-seekers, joining a startup as an employee is not an attractive career option, due to the inherent risk that the startup might fail.

Need for proper regulatory mechanism

- The factors enabling the rise of unicorns comprise the availability of private equity funds, increasing Internet penetration and digital payments, more robust infrastructure and the rising pool of skilled talent.
- Considering the focus on creating an Aatmanirbhar Bharat, however, the nation's policymakers, risk-taking corporates and funding agencies need to foster a conducive climate for ensuring easier availability of domestic capita
- As business models get more complex and interlinked, the regulators have to play a more proactive role in formulating appropriate regulations that encourage innovation and support emerging business models rather than hindering innovation.
- Besides promoting local funding, the government and corporate entities may need to invest in a big way through leading academic institutions to de-risk start-up investments in the long run.

Benefits of a unicorn

- The Indian start-up ecosystem is nothing short of a revolution with \$106-billion worth of value-creation by 44 unicorns, in turn creating 4 million direct and indirect jobs.
- Start-ups have helped women entrepreneurs to contribute immensely to the start-up ecosystem
- It's increasingly seen as a sign that the Indian economy is reaching a turning point and that its entrepreneurial culture is maturing.
 - Ancillary industries rise up creating more avenues of innovation, growth and employment.
 - The unicorns like ola, flipkart which are consumer centric have created an alternate gig economy for workers, which gives them much needed flexibility.
 - Due to competition among unicorns, consumers are benefited through competitive pricing.
 - It has created an ecosystem in cities such as Bengaluru and Delhi, which has paved way for more capital and investments flowing into the nation.

Conclusion

By providing the “minicorns” (a start-up with \$1 million-plus valuation) and “soonicorn” (funded by angel investors or venture capitalists and likely to soon join the unicorn club) the right regulatory ambience and local sources of funding, India can create a truly innovative and resilient economy.

DAILY QUIZ

Q1. With reference to “PM Poshan Shakti Nirman Scheme”, consider the following statements:

1. It is an initiative of the Government of India and the Food Safety and Standards Authority of India (FSSAI).
2. It aims to transform the country's food system in order to ensure safe, healthy and sustainable food for all Indians

Which of the statements given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2**

Q2. Consider the following statements about the Nipah virus:

- 1. It is a zoonotic virus, meaning that it is not an airborne infection.
- 2. Currently, there are no vaccines available against Nipah virus.

Which of the statements given above is/are correct?

- a. 1 only
- b. 2 only**
- c. Both 1 and 2
- d. Neither 1 nor 2

Q3. The “Global Roadmap to Defeat Meningitis by 2030” was recently released by which of the following?

- a. Food and Agriculture Organization
- b. World Organisation for Animal Health
- c. World Health Organization**
- d. Oxfam International

Q4. Consider the following statements about National Export Insurance Account (NEIA):

- 1. It has been set up by the Government of India to facilitate medium and long-term exports.
- 2. It aims to ensure the availability of credit risk cover for projects and other high-value exports.

Which of the statements given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2**
- d. Neither 1 nor 2

Q5. Consider the following statements:

- 1. Hydrogen fuel is a zero-emission fuel burned without oxygen.
- 2. It can be used in fuel cells or internal combustion engines.

Which of the statements given above is/are correct?

- a. 1 only
- b. 2 only**
- c. Both 1 and 2
- d. Neither 1 nor 2