

Swachh Survekshan Awards 2023

Why in news?

- Surat in Gujarat and Indore in Madhya Pradesh were jointly declared cleanest cities of the country at the annual clean city awards 2023 of the Union Urban Affairs Ministry.
- This was for the seventh year in a row that Indore has been ranked as the cleanest city in India.

Swachh Survekshan

- It is an annual survey of cleanliness, hygiene and sanitation in cities and towns across India, launched as part of the Swachh Bharat Abhiyan (specifically under SBA-Urban).
- It was launched by the Ministry of Housing and Urban Affairs (MoHUA) with Quality Council of India (QCI) as its implementation partner.
 - The SBA was launched (on 2nd October 2014) to make India clean and free of open defecation by 2nd October 2019.
 - The SBA was split into two - rural (SBA-Gramin, monitored by the Department of Drinking Water and Sanitation under the Ministry of Jal Shakti) and urban (SBA-Urban, overseen by the MoHUA).
 - SBM-U 2.0 was recently launched on 1st October, 2021, focused on ensuring complete access to sanitation facilities for all.
 - The vision of a Garbage Free India is an initiative under SBM-U 2.0.
- The first survey was undertaken in 2016 (covering 73 cities), which had grown to cover 4242 (by the 2020 survey).
 - The methodology for measuring cleanliness rests on two main criteria – citizen feedback and field assessment.

Objectives of Swachh Survekshan



Swachh Survekshan 2023

- The President Droupadi Murmu conferred Swachh Survekshan awards 2023 at Bharat Mandapam, New Delhi hosted by Ministry of Housing and Urban Affairs (MoHUA).
- The theme for the year 2023 was -“Waste to Wealth”.
 - For 2024, the theme is “Reduce, Reuse and Recycle”.

Performance of cities in Swachh Survekshan 2023

- The Mhow Cantonment Board in Madhya Pradesh was adjudged the cleanest cantonment board.
- Varanasi and Prayagraj, both in Uttar Pradesh, won the top two awards amongst the cleanest Ganga towns.
- Chandigarh walked away with the award for the Best Safaimitra Surakshit Sheher (safest city for sanitation workers).
- Twenty zonal awards were bestowed upon medium and small cities.



Case study of Indore

- When the Awards first began in 2016, Indore ranked at number 25. However, the city leapfrogged in the rankings in a year and has maintained its top position since then.
- Indore targeted the various indicators mapped in the survey early on.
- A slew of measures included changes to the sanitation and waste collection system, as well as popularising these initiatives among citizens to build better habits around sanitation.
- Segregation and disposal of waste
 - Terminating the private contract given for the collection and disposal of solid waste, Nagar Nigam took on this work and drew new strategies.
 - The routes of municipality garbage disposal vehicles were changed such that they directly collected waste — dry and wet separated — from the households.
 - In some instances, corporation workers refused to collect households’ garbage bags unless they had been segregated.
 - The wet waste was entirely converted into compost and sold by Indore municipality.
 - A new treatment plant was set up in 2016 at Devguradiya to tackle dry waste.
 - NGOs were also involved and went door-to-door to make people aware of handing over their garbage directly to the municipality vehicles, for a monthly charge for each household.
 - Indore also addressed the issue of legacy waste by clearing and treating of nearly 13 lakh metric tonnes of waste at the Devguradiya ground in just about six months.
 - For a five-star rating in Swachh Bharat, one of the criteria is that 75 per cent of the waste be treated at the dumping site.
- Installing new toilets, dustbins
 - The NGOs also did the groundwork for identifying areas in the city in need of urinals and toilets to tackle the challenge of open defecation.
 - Around 1,000 free dustbins were distributed to vehicle owners to encourage them to not throw waste out of windows.
- Building habits among citizens
 - Public officials held multiple meetings with citizens and administered the oath of cleanliness to lakhs of people.
 - Indore Municipality also issued spot fines from Rs 250 to Rs 500 against people spitting on roads, urinating in the open, or littering.
 - In order to give a message to habitual offenders, public shaming was used as a tool for deterrent.
 - Municipalities started publishing the names of such offenders in newspapers and broadcasting them over radio.

50 Years of Project Tiger**Why in News?**

- Launched in 1973, Project Tiger introduced India's Tiger Reserves – which have since rapidly ascended in status.

Background of Project Tiger

- In 1972, India enacted the Wildlife (Protection) Act (WLPA) and introduced new spatial fixtures within notified forests, called 'National Parks'.
 - In the National Parks, the rights of forest-dwellers were removed and vested with the State government.
 - The WLPA also created 'Wildlife Sanctuaries', where only some permitted rights could be exercised.
- The government created the 'Critical Tiger Habitat' (under the WLPA) in areas of National Parks and Sanctuaries which are required to be kept as inviolate for the purposes of wildlife conservation.

What is Project Tiger?

- It is a tiger conservation programme (a Centrally Sponsored Scheme of the MoEF&CC) launched in 1973 by the Government of India and administered by the National Tiger Conservation Authority (NTCA).
- It aims at
 - Ensuring a viable population of the Bengal tiger ('endangered') in its natural habitats,
 - Protecting it from extinction,
 - Preserving areas of biological importance as a natural heritage that represent the diversity of ecosystems across the tiger's range in the country.

Developments after the Launch of the Project Tiger

- In 2005, the then PM appointed a 5-member 'Tiger Task Force' after a public outcry that India's tigers existed only on paper and not in the forests of Sariska in Rajasthan.
 - In Sariska, the government had spent Rs 2 crore per tiger in 2002-2003 for their upkeep and safety, versus Rs 24 lakh per tiger elsewhere.
- The Task Force found that the increasing conflict between the forest/wildlife bureaucracy and those who coexist with the tigers was a recipe for disaster.
- So, the Parliament amended WLPA in 2006 to create the National Tiger Conservation Authority (NTCA) and a tiger conservation plan.
 - From an administrative category arbitrarily constituted and administered by the forest bureaucracy, Tiger Reserves became a statutory category in 2006.
- Later, the government also enacted the Forest Rights Act (FRA) 2006, which recognised all customary and traditional forest rights - individual as well as community - on all forest land, including in Tiger Reserves.
 - Under the Act, the habitation-level Gram Sabha was to democratically determine and demarcate the forest rights that FRA recognised and vested in them.
 - As a result, FRA secured the livelihoods of at least 20 crore Indians – about half of them tribals – in 1.79 lakh villages.
 - Importantly, FRA introduced a 'Critical Wildlife Habitat' (CWH), akin to the CTH, with one difference: once a CWH had been notified, it couldn't be diverted for non-forestry purposes.

Success Story of the Project Tiger

- Today, Tiger Reserves are hailed worldwide as India's miraculous success story in environment and forest conservation, especially in this age of climate change.
- From only 9 Reserves in 1973 encompassing 9,115 sq. km, there are today 54 in 18 States, occupying 78,135.9 sq. km/ 2.38% of India's total land area.
- CTHs covers 42,913.37 sq. km/ 26% of the area under National Parks and Wildlife Sanctuaries.
- According to the Tiger Census 2022, there were 3,167-3,925 tigers in the country and their population is growing at 6.1% a year, prompting the government to claim India is now home to 3/4th of the world's tigers.
- The monitoring system M-STrIPES (Monitoring System for Tigers - Intensive Protection and Ecological Status) - is a software-based monitoring system developed (by NTCA in 2010) to assist patrol and protect tiger habitats.

Concerns Regarding India's Tiger Protection and Conservation Plans

- Exclusionary approach:
 - The Buffer Area outside the CTH is to promote human-animal coexistence while recognising the livelihood, developmental, social, and cultural rights of the local people.
 - However, the overall 'fortress conservation' approach to protecting tigers displaced people who had coexisted with tigers for generations.
- Except for Similipal (Odisha), the CTHs had no Buffer Area:
 - India bears the long-term brunt of this error: tigers have been forced to inhabit and inherit a landscape leading to increase in man-wild conflict incidences.
 - With further increase in tigers and Tiger Reserves, and tiger corridors to link them up, India's tiger terrain is set to become a hotspot not for biodiversity but anxiety and conflict.
- Issue with relocation and rehabilitation:
 - WLPA prohibits all relocation except "voluntary relocation on mutually agreed terms and conditions" satisfying requirements in the law.
 - According to the FRA and the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement (LARR) Act 2013, no relocation can happen without the consent of the affected communities.
 - LARR also requires the rehabilitation package to provide financial compensation as well as secure livelihoods to those relocated.
 - However, these provisions are not followed in letter and spirit.

PRELIM FACTS**1. Article 30 of the Indian Constitution**

- The Supreme Court recently attempted to strike a balance by remarking that the intent of Article 30 of the Constitution was not to ghettoise minorities by insisting they had the upper hand in administration of the institution.

About Article 30:

- It is one of the many provisions that ensure the preservation of minority rights.
- Article 30 of the Indian Constitution states the right of minorities to establish and administer educational institutions.
- It says: "All minorities, whether based on religion or language, shall have the right to establish and administer educational institutions of their choice."
- It was adopted on December 8, 1948.
- Features:
 - It consists of provisions that safeguard various rights of the minority community in the country, keeping in mind the principle of equality as well.
 - Article 30(1) says that all minorities, whether based on religion or language, shall have the right to establish and administer educational institutions of their choice.
 - The right is provided by this clause on two types of minorities, namely, religious and linguistic minorities.
 - Article 30(1A) deals with the fixation of the amount for the acquisition of property of any educational institution established by minority groups.
 - Article 30(2) states that the government should not discriminate against any educational institution on the ground that it is under the management of a minority, whether based on religion or language, while giving aid.
- Concept of Minorities:
 - The Constitution of India uses the word minority but does not define it.
 - Article 29 of the Indian Constitution uses the word 'minorities' in its marginal heading, but it speaks about "any section of the citizens inhabiting the territory of India or any part of the country should have the right to protect their language or script or culture, which is different and varied."
 - It also says that citizens should be allowed to take admission in any educational institution which is maintained by the State or getting help from State funds whether they vary in religion, race, caste, language, or any of them.
 - Article 30 of the Constitution of India talks only about religious and linguistic minorities.
 - Religious Minority: The basic ground for a community to be nominated as a religious minority is the numerical strength of the community.

- Section 2, clause (c) of the National Commission of Minorities Act, declares six communities as minority communities. They are:
 - Muslims
 - Christians
 - Buddhists
 - Sikhs
 - Jains and
 - Zoroastrians (Parsis)
- Linguistic Minorities:
 - Class or group of people whose mother language or mother tongue is different from that of the majority groups is known as the linguistic minorities.
 - Article 350-A of the Indian Constitution imposes an obligation on the states to try to provide enough facilities for instruction in the mother language at the primary level of education to children belonging to the linguistic minority community.

2. Zero Effect, Zero Defect Scheme (ZED)

- The Zero Effect, Zero Defect scheme (ZED) by the MSME Ministry has achieved the 1 lakh certification milestone, the ministry said recently.

About Zero Effect, Zero Defect Scheme (ZED):

- Launched in October 2016 and revamped in April 2022, the ZED scheme offers certification for environmentally conscious manufacturing under three certification levels (gold, silver, and bronze) classified according to 20 performance-based parameters such as quality management, timely delivery, process control, waste management, etc.
- The major objectives of the ZED Scheme are:
 - To create proper awareness in MSMEs about ZED manufacturing and motivate them for the assessment of their enterprise for a ZED rating.
 - To drive manufacturing with the adoption of Zero Defect production processes without impacting the environment (Zero Effect).
 - To encourage MSMEs to constantly upgrade their quality standards in products and processes.
 - To support the “Make in India” campaign.
- The scheme provides financial assistance of up to 75 percent of the total cost of certification, with a maximum subsidy ceiling of Rs 50,000, along with up to Rs 2 lakh in support for handholding/consultancy to achieve the next certification level.
- For technology upgradation, the scheme offers assistance of up to Rs 3 lakhs for moving towards zero effect solutions/pollution control measures/cleaner technology.
- MSMEs are charged Rs 10,000 for bronze certification, Rs 40,000 for silver certification, and Rs 90,000 for gold certification.
- In December 2023, the MSME Ministry made the ZED scheme free for women-led MSMEs.
- In addition, the government will now make guarantee payment of 100 percent financial support for the certification costs under the scheme.
- The ZED certification is valid for three years, and the MSME units are required to re-apply for the certificate as per the validity of the scheme.
- Currently, the scheme is applicable for manufacturing MSMEs only.

3. VIPER Rover

- NASA has invited people to send their names to the surface of the Moon aboard the agency’s first robotic lunar rover VIPER – short for Volatiles Investigating Polar Exploration Rover.

About VIPER Rover:

- The Volatiles Investigating Polar Exploration Rover, or VIPER will get a close-up view of the location and concentration of ice and other resources at the Moon's South Pole.
- It is NASA's first mobile robotic mission to the Moon.
- It will directly analyze ice on the surface and subsurface of the Moon at varying depths and temperature conditions within four main soil environments.
- The data VIPER transmits back to Earth will be used to create resource maps, helping scientists determine the location and concentration of ice on the Moon and the forms it’s in, such as ice crystals or molecules chemically bound to other materials.

- It navigates across the rugged terrain of the lunar South Pole and gathers valuable data that will help us better understand the history of the Moon and the environment where NASA is planning to send Artemis astronauts.
- Mission duration: 100 Earth days, covering 3 cycles of lunar day and night.
- It will land at the South Pole of the Moon in late 2024.

4. Phytocannabinoids

- Scientists at CSIR-Indian Institute of Integrative Medicine (IIIM), Jammu, have found that tetrahydrocannabinidiol (THCBD) which is phytocannabinoids, a class of compounds found in the cannabis plant, possess some hitherto unexplored antibiotic properties.

About Phytocannabinoids:

- Cannabinoids are a class of compounds found in the cannabis plant.
- The prefix 'phyto' in phytocannabinoid means it comes from a plant.
- Cannabinoids bind to receptors in the bodies of animals to produce a variety of neurological effects.
- The researchers extracted cannabidiol from a cannabis plant and made it react with hydrogen, using palladium as a catalyst.
- This process yielded a mixture of molecules with the same composition and order of atoms but different structures. One of them was THCBD.

What were THCBD's effects?

- Researchers tested the antibacterial properties of tetrahydrocannabinidiol (THCBD), a semisynthetic phytocannabinoid, against *Staphylococcus aureus*, the bacteria responsible for the second most number of deaths due to AMR worldwide.
- The minimum quantity found to be efficacious against a strain of Gram-positive *S. aureus* used commonly in AMR research was found to be 0.25 µg/ml, which the researchers called "potent".
- They found that THCBD "significantly reduced" the number of viable microbial cells of *S. aureus* skin infections in mice.

Key facts about Antimicrobial resistance (AMR):

- It is a major health concern worldwide.
- It refers to when bacteria, viruses, fungi, and parasites no longer respond to medicines used to treat them.

5. Amrit Bharat Station Scheme (ABSS)

- The Udupi station under the Konkan Railway Corporation Ltd. (KRCL) network was recently included in the Railway Ministry's Amrit Bharat Station Scheme (ABSS) for redevelopment.

About Amrit Bharat Station Scheme (ABSS):

- It is an ongoing Indian Railways mission launched in February 2023 by the Ministry of Railways to redevelop 1,309 stations nationwide.
- The scheme aims to transform railway stations into modern, well-equipped hubs with improved passenger amenities, better traffic circulation, inter-modal integration, and enhanced signage.
- It is based on Master Planning for the long term and the implementation of the elements of the Master Plan as per the needs and patronage of the station.
- The scheme shall cater for the introduction of new amenities as well as the upgradation and replacement of existing amenities.
- The ultimate goal is to transform these stations into vibrant city centres over the long term.
- Key Features:
 - Modern passenger amenities: This includes providing clean and hygienic waiting areas, restrooms, Special amenities for the disabled, and food and beverage outlets.
 - Improved traffic circulation: This includes creating separate entry and exit points for passengers and vehicles, widening roads and footpaths, and providing adequate parking facilities.
 - Inter-modal integration: This includes providing seamless connectivity between railway stations and other modes of transport, such as buses, taxis, and auto-rickshaws.
 - Upgraded signage: This includes providing clear and visible signage in multiple languages to guide passengers.
 - Sustainability: This includes using energy-efficient lighting and appliances.
 - Eco-friendliness:

- Rainwater harvesting systems and green spaces
- Ballastless tracks, which reduce noise and vibration
- Roof plazas, where available, provide additional space for commercial activities and passenger amenities.

ANSWER WRITING

Climate Change and War have sparked renewed interest in nuclear energy. In this context analyse to what extent is this renewed interest leading to the revival of energy generation through nuclear power.

Nuclear power plants produce more than one-quarter of all low-carbon electricity while avoiding 70 Gigatonnes of CO2 emissions in the last five years. Thus nuclear power is preferred over fossil fuels.

Recently, nuclear power is showing signs of revival as Europe, facing threats to the supply of Russian gas and crude oil, is realising its importance. Even Germany, earlier on the phase-out of nuclear energy, is extending the lifespan of its last three plants.

Even Japan recovering from the Fukushima Disaster is reversing its stance by extending the lifespan of its reactors.

Power generation through nuclear energy is on the path of revival:

- Declining interest in coal - Developed countries call for the coal phase-out in climate conferences with no carbon emissions from nuclear plants leading to their promotion.
- Issues in fossil fuel supply: Ukraine war led to disruption of the supply of natural gas and high crude oil prices thus moving Europe towards nuclear energy.
 - Example: France boosting nuclear share from 15 to 30 per cent. China and India are also building new reactors.
- Investments in small modular reactors are rising to decrease initial huge costs as well as accident risks. Example- floating Akademik Lomonosov in Russian Far East.
- Stable base power to the economy unlike high variability of renewables. Need to balance nuclear and renewables. Example- UAE utilising large solar panels as well as energy from Barakah nuclear plant.
- Subsidisation of plants at risk of closing down. Example- USA making 6 billion dollars available towards plants failing financially.

However, there are still concerns about energy generation through the nuclear route:

- Accidents can turn too risky. Example- Fukushima, risks of radiation affecting generations.
- Environmental risks of disposing of radioactive nuclear waste.
- Large cost overruns in new projects in Europe and the USA as construction of large plants require decades with no utility to limit emissions by 2030.
- Alternatives: Cleaner and safer renewables like solar can be backed by batteries to be a better alternative, Example- international efforts like International Solar Alliance, India's focus on One Sun One World One Grid.
- Focus on newer fuels which are cleaner as well as more efficient like green hydrogen, biofuels etc.

Conclusion

To tackle the risk of accidents and dispose of waste more safely, countries should collaborate to come up with common safer standards and ensure implementation for the safe use of nuclear energy.

There should be a multi-stakeholder approach to tackle global warming by promoting multiple alternatives such as solar, wind, hydel, green hydrogen etc. Together these can help the world move towards net zero emission targets.

MCQs

1. Consider the following statements.
 1. Anabatic Winds are downslope winds created when the mountain surface is colder than the surrounding air and create a downslope wind.
 2. Katabatic Winds are upslope winds driven by warmer surface temperatures on a mountain slope than the surrounding air column.
 Which of the above statements is/are incorrect?
 (a) 1 only
 (b) 2 only
 (c) Both 1 and 2
 (d) None
2. In India, what is the role of the Coal Controller's Organization (CCO)?
 1. CCO is the major source of Coal Statistics in the Government of India.
 2. It monitors the progress of the development of Captive Coal/Lignite blocks.
 3. It hears any objection to the Government's notification relating to the acquisition of coal-bearing areas.

- How many of the above statements are correct?
- (a) Only one
(b) Only two
(c) **All three**
(d) None
3. PRANA portal has been launched to
- (a) Provide physical aids and assisted living devices.
(b) **To monitor the implementation of air pollution-related initiative.**
(c) Providing mental health-related services to physically disabled people.
(d) For registering complaints regarding child sexual harassment.
4. Consider the following statements regarding VIPER Rover:
1. It is NASA's first mobile robotic mission to the Moon.
2. It will directly analyze ice on the surface and subsurface of the Moon at varying depths and temperature conditions within four main soil environments.
- 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
5. Consider the following statements regarding Sustainable Aviation Fuel (SAF):
1. It can be produced from many sources including waste oil, fats, and municipal waste.
2. Centre has set an indicative target of 5% for blending SAF with conventional jet fuel for all international flights by 2027.
- 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
6. Global Risk Report 2024 has been released by
- (a) **World Economic Forum**
(b) United Nations Office for Disaster Risk Reduction
(c) United Nations Environment Program
(d) United Nations Development Program
7. Consider the following statements regarding Uttaramerur inscription.
1. Uttaramerur inscription is found in Kanchipuram, Tamil Nadu.
2. These provide a detailed description about the village's self-governance.
3. Uttaramerur is known for its historic temples built during Pallava and Chola rule.
- How many of the above statements is/are correct?
- (a) Only one
(b) Only two
(c) **All three**
(d) None
8. The term 'Reverse Flipping', often mentioned in the news refers to:
- (a) Companies showing profits in offshore locations to evade taxation.
(b) **Companies shifting their domicile back to India.**
(c) Companies transferring ownership to an overseas entity.
(d) Companies misusing inverted duty structures.
9. Laxman Naskar versus Union of India (2000) case is related to:
- (a) Death Penalty
(b) **Remission of convicts**
(c) Environmental pollution
(d) Sedition
10. Identify the correct statement regarding Interim bail.
- (a) It can be filed by those who fear arrest for a non-bailable offense.
(b) It is granted to a person who has been arrested or is in police custody.
(c) It is regular bail followed by the anticipatory bail.
(d) **It is granted for a short time before the hearing for the grant of regular bail.**