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Eklavya Model Residential School: Maharashtra

EKLAVYA MODEL RESIDENTIAL SCHOOL (EMRS)

- Recently the Ministry of Tribal Affairs has laid the foundation stone for the construction of Eklavya Model Residential School (EMRS) in Nashik, Maharashtra.
- The objective of the proposed EMR School is to provide quality education to tribal students in remote tribal areas of Nashik.

Eklavya Model Residential School:

- EMRS is a scheme to build model residential schools for Indian Tribes (ST-Scheduled Tribes) across India. It was started in the year 1997-98.
- Eklavya Model Residential School at Shinde (Nashik) has been planned by the Ministry of Tribal Affairs to promote quality education in the adjoining tribal areas.
- CBSE syllabus is followed in EMRS.

- Eklavya Model Residential Schools are being developed to provide quality education to tribal students with emphasis on not only academic education but all round development of tribal students.
- Presently there are 384 functional schools spread across the country which are set up like Navodaya Vidyalayas, focusing on special state-of-the-art facilities for the preservation of local art and culture besides imparting training in sports and skill development.

Coverage:

- As per the extant EMRS guidelines for the year 2010, at least one EMRS is to be established in every Integrated Tribal Development Agency/Integrated Tribal Development Project having 50% ST population in the area.
- As per Budget 2018-19, every block with more than 50% ST population and at least 20,000 tribal population will have Eklavya Model Residential School by the year 2022.

Objective of EMRS:

- Comprehensive physical, mental and socially relevant development of all students enrolled in each EMRS.
- Strive to empower students to make a difference from school to their homes, to their villages and finally to the larger context.
- To focus separately on the educational support provided to students of classes XI and XII and classes VI to X, so as to meet their specific needs.
- To support annual expenses in such a way as to provide fair remuneration to employees and to promote the creation of infrastructure related to the maintenance of facilities that meet the educational, physical, environmental and cultural needs of student life.

Legal Provisions for Scheduled Tribes:

- Protection of Civil Rights against Untouchability Act, 1955.
- Scheduled Castes and Scheduled Tribes (Prevention of Atrocities) Act, 1989.
- Provisions of Panchayats (Extension to Scheduled Areas) Act, 1996.
- The Scheduled Tribes and Other Traditional Forest Dwellers Act, 2006.

Other Initiatives Related to Scheduled Tribes:

- Tribal Cooperative Marketing Development Federation (TRIFED)

- Initiative for Digital Transformation of Tribal Schools
- Development of Particularly Vulnerable Tribal Groups (PVTGs)
- Pradhan Mantri Van Dhan Yojana
- National Commission for Scheduled Tribes

Swadeep Kumar

Endosulfan Pesticide

- Supreme Court has slammed the Kerala government for not taking appropriate steps to treat the victims affected by Endosulfan Pesticide.
- The court said the state's inaction is "horrendous" and in violation of the apex court's 2017 judgment that ordered the state to pay Rs 5 lakh to the victims in three months.
- The court found five years after the verdict that only eight of the 3,704 victims had been compensated.
- The Supreme Court in 2015 banned the manufacture, sale, use and export of Endosulfan across the country citing its harmful health effects.

Endosulfan:

- Endosulfan is an organochlorine insecticide that was first introduced in the 1950s and is commonly known by its commercial name, Thiodon.
- It is related to many serious medical conditions, such as neurotoxicity, physical deformity, poisoning etc.
- It is sprayed on crops like cotton, cashew, fruit, tea, paddy, tobacco to control pests like white fly, aphids, beetles, insects etc.

- Endosulfan is listed on prior informed consent under both the Rotterdam Convention and the Stockholm Convention on Sustainable Organic Pollutants.

Effects of Endosulfan:

Environmental effect:

- Endosulfan in the environment is absorbed into food chains, causing widespread problems.
- If endosulfan is released into water, it can be absorbed into the sediment and affect aquatic organisms.

Humans and Animals:

- Ingestion of endosulfan can result in physical deformities, cancer, birth defects, and diseases of the brain and nervous system.

Rotterdam Convention 1998:

- The objective of this convention is to promote cooperation and responsibility-sharing measures between countries to deal with the trade in hazardous chemicals and pesticides.
- Prior Informed Consent (PIC) is a key feature of this Convention and is legally binding on the members of the Party.
- PIC facilitates the exchange of information relating to the nature and trade between the members of the parties.
- This Convention creates an obligation to implement the prior informed consent process.

Stockholm Convention 2001:

- The objective of this convention is to reduce the concentration of persistent organic pollutants (PoPs) which are chemical substances and not only remain in the atmosphere for a long time but also have the potential to bioaccumulate.
- The convention has listed 12 PoPs as the 'Dirty Dozen'.

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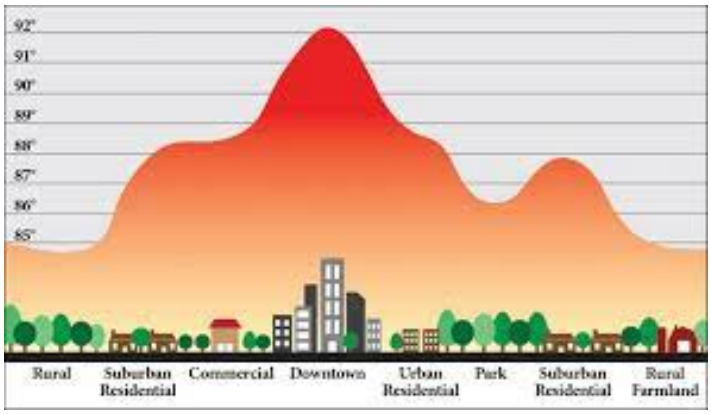
Urban Heat island



- Recently many parts of India are facing severe heat waves. Urban areas are places whose temperature is higher than the temperature of rural areas. This phenomenon is called "urban heat island".
- According to experts, these temperature anomalies are due to variation in temperature of highly urbanized and semi-urban areas as well as availability of open and green spaces in the surrounding areas.

Urban heat island

- Urban heat island can be defined as a local and temporary phenomenon in which some areas within a city experience higher temperatures than their surroundings.
- The formation of urban heat islands is basically due to the buildings and houses of the cities made of concrete, due to which the emitted heat does not reach the atmosphere easily.
- Urban heat islands are primarily driven by the accumulation of heat between installations made of concrete.
- This variation in temperature can range from 3 to 5 °C.

Reasons for urban areas being hotter than rural areas:

- It has been observed that greener areas experience lower temperatures as compared to other regions.
- Rural areas have relatively more green cover in the form of plantations, fields, forests and trees as compared to urban areas. This green cover plays a major role in controlling the heat in its surroundings.
- Transpiration is the process that plants do to regulate temperature.

Following are the root causes of urban heat island in urban areas:

- The frequent construction of skyscrapers, roads, parking lots, sidewalks and public transport transit lines has accelerated the incidence of urban heat islands.
- It is caused by black or any dark colored substance.
- Cities typically have buildings constructed of glass, brick, and cement and concrete, all of which are dark materials, meaning that the material attracts and absorbs high heat.

Reason for Urban Heat Island:

- **Multifold increase in construction activities:** The construction and expansion of complex infrastructure of simple urban dwellings requires carbon absorbing materials like asphalt and concrete which absorb a large amount of temperature, hence increasing the surface area of urban areas. The average temperature increases.
- **Dark surface:** The exterior surface of buildings built in urban areas is usually painted black or dark, due to which the albedo, that is, the reflection of the sun's heat from the earth, is reduced and the absorption of heat increases.
- **Air Conditioning:** Air conditioning is used to control the temperature, which requires more energy for power plants, which causes more pollution. In addition air conditioners exchange heat with atmospheric air which generates heating locally. Thus it is a cascade effect that contributes to the expansion of urban heat islands.
- **Urban building style:** High buildings and narrow roads obstruct air circulation thereby slowing the wind speed which reduces the natural cooling effect. This is called the Urban Canyon Effect.
- **Need for Mass Transportation System:** Transportation system and large scale use of fossil fuels increase the temperature in urban areas.
- **Reduction of trees and green areas:** Trees and green areas reduce the process of evaporation and carbon dioxide emissions and all these processes help in reducing the temperature of the surrounding air.

Measures to reduce urban heat islands:

- **Increasing the area under green cover:** Tree plantation and efforts to increase the area under green cover is the primary requirement for mitigating high heat conditions in urban areas.

- **'Passive cooling' to reduce urban heat islands:** Passive cooling technology, a widely used strategy to create naturally ventilated buildings, could be an important alternative for residential and commercial buildings.
- The IPCC report makes reference to ancient Indian building designs, which can be adapted to modern facilities in the context of global warming.
- Other methods of heat quenching include using suitable building materials.
- Roofs should be painted white or light colors to reflect heat and reduce absorption.
- Terrace plantation and kitchen gardening should be promoted.

NASA's analysis of India's urban heat island:

- According to NASA, urban heat islands are happening more in urban parts of Delhi.
- The temperature of urban areas is much higher than the agricultural areas around Delhi.
- Images taken by NASA's Ecosystem Spaceborne Thermal Radiometer Experiment (ECOSTRESS) have revealed massive red spots in the Delhi region, as well as smaller red spots around neighboring cities such as Sonepat, Panipat, Jind and Bhiwani.
- Echostress is a radiometer-equipped instrument that was sent by NASA to the International Space Station in 2018.
- Ecostress mainly works to assess the temperature of plants as well as to know their water requirements and the effect of climate on them.
- These red spots in ECOSTRESS data indicate higher temperatures in urban heat islands, while lower temperatures in rural areas around cities.

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