Particulate matter pollution

March 27, 2020

- **Why in news?**
  - The presence of Particulate matter is contributing more to the pollution scenario.
- **What is particulate matter?**
  - Particulate matter (PM), **also called particle pollution** is a mixture of solid particles and liquid droplets found in the air.
  - Particles **can be suspended in the air for long periods** of time.
  - Some particles, such as dust, dirt, soot, or smoke, are large or dark enough to be seen with the naked eye.
  - Others are so small that they can only be detected using an electron microscope.
- **Particle pollution includes:**
  - **PM10** : inhalable particles, with diameters that are generally 10 micrometers and smaller; and
  - **5:** fine inhalable particles, with diameters that are generally 2.5 micrometers and smaller.
- **Sources of PM:**
  - Some are **emitted directly from a source,** such as construction sites, unpaved roads, fields, smokestacks or fires.
  - Most particles form in the atmosphere as a result of **complex reactions of chemicals** such as sulfur dioxide and nitrogen oxides, which are pollutants emitted from power plants, industries and automobiles.
  - They are indirectly formed when **gases from burning fuels react with sunlight and water vapor.**
- **Harmful Effects of PM:**
  - They are so small that they can be inhaled and cause serious health problems.

- Some particles less than 10 micrometers in diameter can get deep into lungs and some may even get into the bloodstream.
- Fine particles are also the main cause of reduced visibility (haze).
- According to a study, an increase in PM2.5 by one microgram per cubic metre reduces life expectancy by three weeks.