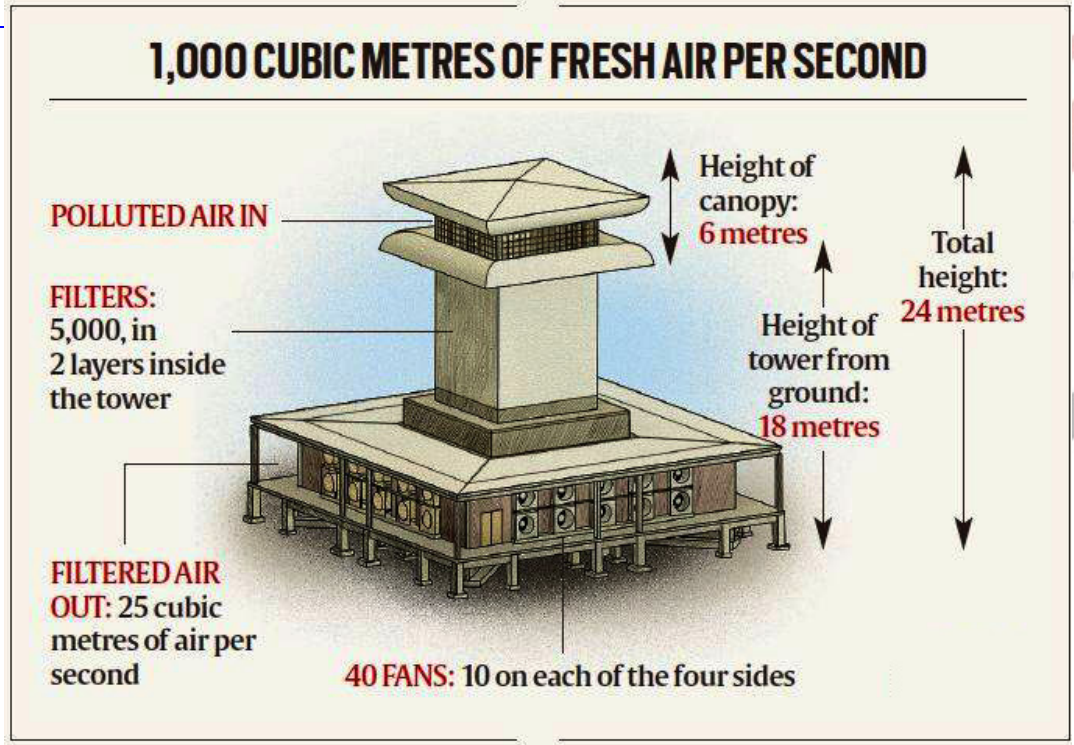
Delhi’s New Smog Tower

Why in News

Recently, the Chief Minister of Delhi inaugurated the **country's first 'smog tower’ in Connaught Place.**

- It was inaugurated months before the **pollution level spikes in the national capital due to burning of crop waste (**stubble burning**) by farmers.**

//



Key Points

- **Background:**
  - In 2019, the **Supreme Court** directed the **Central Pollution Control Board (CPCB)** and the Delhi government to come up with a plan to install smog towers to combat air pollution.
  - **IIT-Bombay then submitted a proposal** for the towers to the CPCB.
  - In January 2020, the **Supreme Court directed that two towers** should be installed by April as a **pilot project.**
  - The **smog tower at Connaught Place (CP) is the first of these towers.** The second tower, being constructed at Anand Vihar in east Delhi with CPCB as the nodal agency, is nearing completion.
- **About:**

    - Smog towers are structures **designed to work as large-scale air purifiers.**
    - They are usually fitted with **multiple layers of air filters,** which clean the air of pollutants as it passes through them.
    - **China** has the **world's largest smog tower.**
- **Working of the Tower:**
    - It uses a **'downdraft air cleaning system' where** polluted air is sucked in at a height of 24 m, and filtered air is released at the bottom of the tower, at a height of about 10 m from the ground.
        - It is **different from the system used in China,** where a 60-metre smog tower uses an **'updraft' system — air is sucked in from near the ground,** and is **propelled upwards by heating and convection.** Filtered air is released at the top of the tower.
- **Developed by:**
    - **Tata Projects Limited (TPL)** built it with technical support from **IIT-Bombay and IIT-Delhi,** which will analyse its data.
    - **National** Biofuel **Coordination Committee (NBCC) India Ltd** is the project management consultant.
    - **Delhi Pollution Control Committee** was in charge of the Project.
- **Need:**
    - According to a report by CPCB, an increase of **258% to 335%** has been observed in the **concentration of** PM10 **in Delhi** since 2009.
    - But the **most prominent pollutant in Delhi and neighbouring areas** is **PM2.5**
        - PM2.5 refers to **fine particles which penetrate deep into the body and fuel inflammation in the lungs and respiratory tract,** leading to risks of cardiovascular and respiratory problems, including a weak immune system.
    - **Delhi was the most polluted capital city** in the world in 2020 for the third consecutive year, according to a report by a **Swiss group (released in March 2021)** that ranked cities based on their air quality **measured in terms of the levels of ultrafine particulate matter (PM 2.5).**
- **Challenges:**
    - It may **provide immediate relief from air pollution in a small area** but they are a **costly quick-fix measure with no scientific evidence** to back their efficacy in the long term.
    - The tower **could have an impact on the air quality up to 1 km from the tower.**
        - However, the **actual impact will be assessed by IIT-Bombay and IIT-Delhi** in a **two-year pilot study** that will also determine how the tower functions under different weather conditions, and how levels of PM2.5 vary with the flow of air.
- **Other Steps Taken to Tackle the Problem of Pollution in Delhi:**
    - **Subsidy to farmers** for buying **Turbo Happy Seeder (THS)** which is a machine mounted on a tractor that cuts and uproots the stubble, in order to reduce stubble burning.
    - The introduction of **BS-VI vehicles**, push for electric vehicles **(EVs)**, **Odd-Even** as an emergency measure and construction of the Eastern and Western Peripheral Expressways to reduce vehicular pollution.
    - Implementation of the Graded Response Action Plan **(GRAP).** It is a set of curbs triggered in phases as the air quality deteriorates, which is typical of the October-November period.
    - Use of **Green Crackers.**
    - Development of the **National Air Quality Index (AQI)** for public information under the aegis of the CPCB.

Way Forward

- Since there is **no scientific evidence that proves its efficiency,** governments should instead **address root causes and promote** renewable energy to tackle air pollution and **reduce emissions.**
- It will be **really unfortunate if other cities decide to follow suit and set up these expensive, ineffective towers.**

Source: IE