

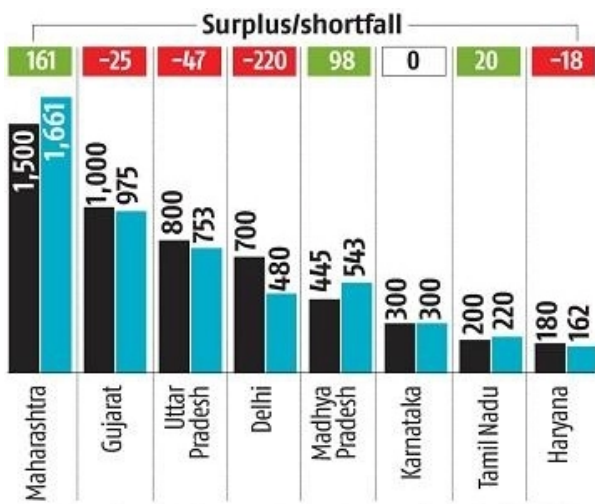


Oxygen Crisis: Covid-19

 drishTiias.com/printpdf/oxygen-crisis-covid-19

Why in News

The **Liquid Medical Oxygen (LMO)** crisis during the **second wave of Covid surge** has been precipitated by a shortage of tankers and the daunting logistics of transportation from distant locations.



Key Points

- **Liquid Medical Oxygen:**
 - It is high purity oxygen suitable for use in the human body. So, it is used for medical treatments.
 - This oxygen **provides a basis for virtually all modern anaesthetic techniques, restores tissue oxygen tension** by increasing the oxygen availability, **aids cardiovascular stability, etc.**
 - **The World Health Organisation** includes this on their **List of Essential Medicines**.
 - According to the **Drug Prices Control Order, 2013**, LMO is placed under the **National List of Essential Medicines (NLEM)**.

- **LMO Production in India:**

- India has a **daily production capacity** of at least **7,100 Metric Tonnes (MT)** of oxygen, including for industrial use.
- Due to the crisis, the production has been increased to **8,922 MT**. And approximately daily **sale is 7,017 MT**.

The domestic production is expected to **cross 9,250 MT** per day by the end of April 2021.

- Therefore, **India appears to be producing sufficient oxygen** to meet the current need.

- **Reasons for the Crisis:**

- **Distance of Production Plants:**

Most of the LMO plants are located in the east, leading to long transportation hauls and a turnaround time of at least 6-7 days for each tanker. Add to this the problem of states holding up tankers on the way.

- **Limited Tankers:**

At present, India has 1,224 LMO tankers with a cumulative capacity of 16,732 MT of LMO. This is grossly inadequate because at any given point, there are only 200 tankers in transit to meet a demand of 3,500-4,000 MT.

- **Companies not Buying Cryogenic Tankers:**

Cryogenic tankers cost around Rs. 50 lakh each. Companies are not buying these tankers because once this wave is over, that investment will turn into losses.

Cryogenic Tankers: These are tankers which store medical oxygen at -180 degrees C, have double-skin vacuum-insulated containers, including an inner vessel made of stainless steel.

- **Leakage and Irrational Use:**

In the past, the Health Ministry repeatedly demanded hospitals to reduce **wastage and unnecessary oxygen use in Hospitals**. Industrial experts also raised **concerns over possible leakages in hospital pipelines that supply oxygen**.

- **Black marketing of oxygen cylinders** is another issue.

- **Government Initiatives:**

- **Oxygen Express:**

Trains to transport LMO and oxygen cylinders across the country have been started to fight the ongoing crisis.

- **Disaster Management Act 2005:**

The Ministry of Home Affairs **invoked Disaster Management Act, 2005 (DM Act)** and ordered **free inter-state movement of oxygen carrying vehicles.**

- **Restarting Plants:**

The government is restarting many closed plants to increase the supply of LMO, **for example**, Sterlite plant in Tamil Nadu will be **reopened for 4 months to provide oxygen supply.**

- **Use of Air Force:**

To speed up the transportation, **Indian Air Force (IAF)** is airlifting empty oxygen tankers and taking them to industrial units that have switched to producing medical grade oxygen.

- **Oxygen Enrichment Unit (OEU):**

- It is developed by scientists of **Council of Scientific and Industrial Research**-National Chemical Laboratory (CSIR-NCL), and will **help reduce the requirement of ventilators and oxygen cylinders** in homecare, villages and remote places.
- Oxygen enrichment units have special significance in view of the **Covid-19 pandemic**. Patient **recovery can be faster with supplemental oxygen in early stages.**

Source: IE