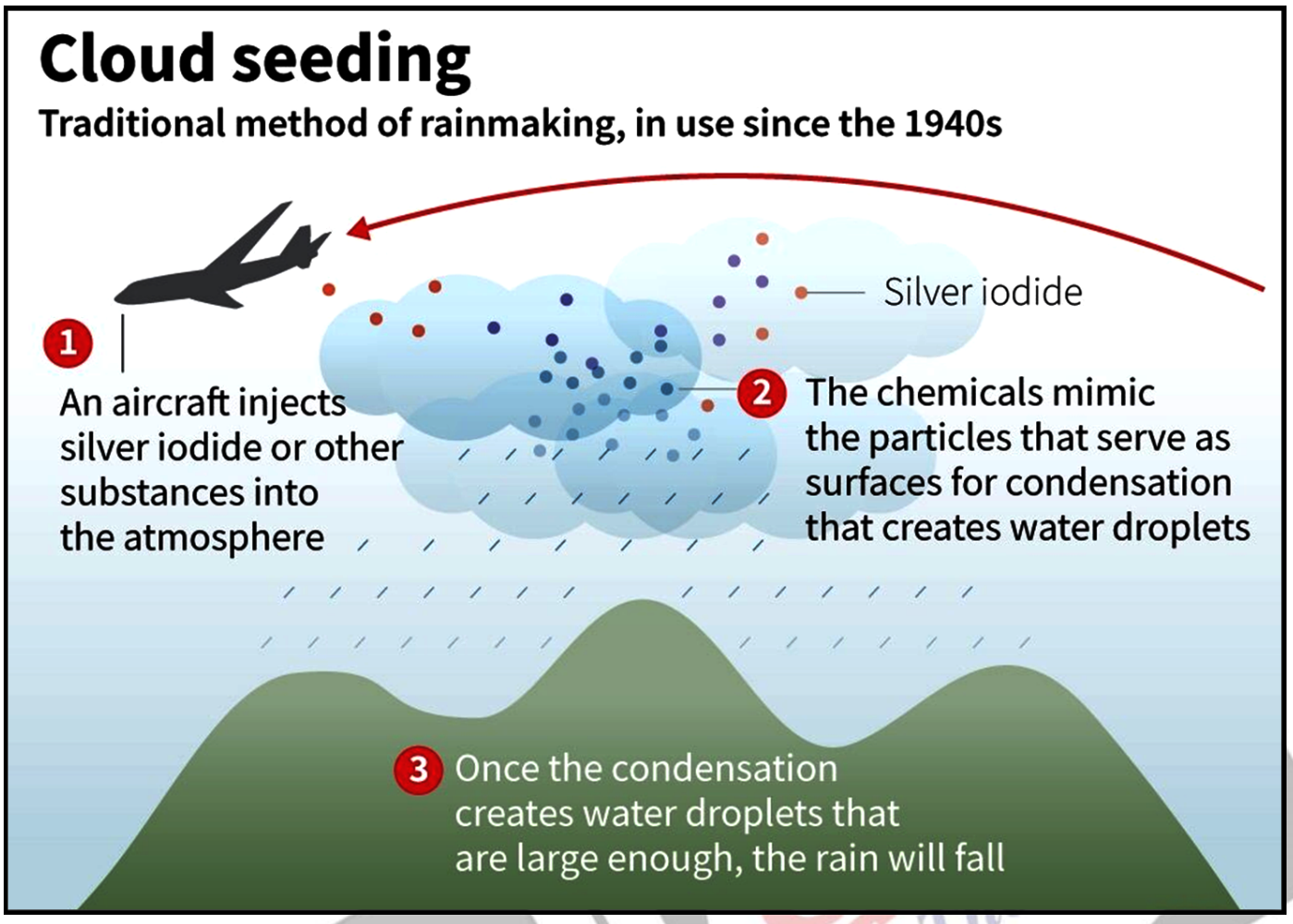
# Country's First Drone-Based Cloud Seeding Experiment

## Why in News?

The state agriculture department of **Rajasthan** launched the **first-ever drone-based cloud seeding experiment** to address the **water crisis** in the region and revive the **Ramgarh Lake**.

## Key Points

- **Objective:** The experiment **aims to trigger rainfall** by dispersing **specialized chemicals** into **rain clouds**, potentially benefiting agricultural activities in the region.
    - This 60-day pilot project aims to **promote water droplet formation** in clouds to tackle the **area's water shortage,** as part of a larger, ongoing effort to address regional water scarcity.
- **Technology Used:** The cloud seeding process is powered by an **AI-driven platform** called **Hydro Trace**, which uses real-time data, **satellite imaging**, and sensor networks to target the right clouds at the right time accurately.
- **Approvals:** The technology received approvals from multiple bodies, including the **Directorate General of Civil Aviation (DGCA)**, the India Meteorological Department, district authorities, and the agriculture department.




## Cloud Seeding

- It is a **weather modification technique** that enhances precipitation by dispersing chemicals like **silver iodide, potassium iodide,** or **dry ice** into clouds, serving as nuclei for water droplet formation, leading to rainfall.
- It can help **combat air pollution,** especially during periods of high **Air Quality Index (AQI)** readings.
- Cloud seeding may **increase water availability** and result in economic, environmental, and human health benefits.