GOVERNMENT OF INDIA
MINISTRY OF EARTH SCIENCES
RAJYA SABHA
UNSTARRED QUESTION NO. 1313
ANSWERED ON 11/12/2025

CLOUD SEEDING OPERATIONS FOR AIR POLLUTION

1313. SHRI S NIRANJAN REDDY:

Will the Minister of EARTH SCIENCES be pleased to state:

(a) the details of cloud seeding operations undertaken by State Governments to control air pollution during the last three years, along with its effectiveness assessments;
(b) whether Government is aware that such operations are cost-intensive and provide only temporary relief;
(c) if so, the details of average cost of cloud seeding operations;
(d) whether repeated cloud seeding operations may raise concerns of metal accumulation in environment due to use of sodium chloride and silver iodide; and
(e) if so, the steps being taken by Government to mitigate long-term environmental challenges?

ANSWER
THE MINISTER OF STATE (INDEPENDENT CHARGE) FOR
MINISTRY OF SCIENCE AND TECHNOLOGY
AND EARTH SCIENCES
(DR. JITENDRA SINGH)

(a) The Government of the National Capital Territory of Delhi (GNCTD), Department of Environment, has approved a pilot project in collaboration with the Indian Institute of Technology (IIT) Kanpur on Technology Demonstration and Evaluation of Cloud Seeding for Delhi NCR pollution mitigation, with the trial conducted in October 2025. The primary objective of the pilot project is to assess whether artificially induced rainfall can effectively reduce concentrations of particulate matter, specifically PM_{10} and $PM_{2.5,}$ in the ambient air.

(b)-(c) As per the details provided by the Department of Environment, GNCTD, the sanctioned project cost is ₹3.2146 crore + 18% GST, under a proposed new budget head "Grant-in-Aid to IIT Kanpur for Cloud Seeding Project. The cloud seeding activity is at trial/demonstration stage with objective to have one more measure in mind to provide relief as an emergency measure during episodic high air-pollution events when conducive cloud cover is present.

(d)-(e) As per the approved Cabinet Note, IIT Kanpur has been assigned the responsibility to collect all water samples during and after the cloud-seeding operations and to analyse them through its designated laboratories to ensure environmental safety and compliance with applicable standards.

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