GOVERNMENT OF INDIA
MINISTRY OF EARTH SCIENCES
LOK SABHA
UNSTARRED QUESTION No. 1750
TO BE ANSWERED ON WEDNESDAY, May 04, 2016

CLOUD SEEDING

1750. SHRIMATI POONAM MAHAJAN:

Will the Minister of EARTH SCIENCES be pleased to state:

(a) whether the Government proposes to study the aerosol effect on the hydrological cycle, to undertake randomised cloud seeding programme for rain-enhancement and to improve climate models for prediction of the monsoon rainfall under the Cloud Aerosol Interaction and Precipitation Enhancement Experiment (CAIPEEX) programme;
(b) if so, the details thereof;
(c) whether the Government is aware that the CAIPEEX programme involves airborne platforms for detailed and intensive studying of cloud aerosol interaction to provide a scientific basis for the operational way of cloud seeding instead of just using ground based and remote sensing instruments; and
(d) if so, the details thereof?

ANSWER
MINISTER OF STATE FOR MINISTRY OF SCIENCE AND TECHNOLOGY AND MINISTRY OF EARTH SCIENCES
(SHRI Y. S. CHOWDARY)

(a-b) Yes Madam. Indian Institute of Tropical Meteorology (IITM) is putting its effort for understanding the rain formation in clouds through a research program, called the Cloud Aerosol Interaction and Precipitation Enhancement Experiment (CAIPEEX). Under this experiment, air borne observations are taken through randomized cloud seeding and seeing the impact.

Airborne observations include detailed measurements of aerosols, cloud droplets, raindrops and ice particles, registering the growth of clouds before and after the seeding.

CAIPEEX research data have been used to formulate ice nucleation scheme for inclusion of such processes in the forecast models.

(c-d) CAIPEEX program uses a combination of radar, other ground based instruments and airborne platforms along with high resolution numerical modeling to plan and conduct the seeding experiment. The area for cloud seeding is determined based on convective potential. Aircraft observations have to be conducted before and after the seeding to determine the environmental conditions and the quantum of seeding material.

As things stand today, artificial rain making techniques involving cloud seeding cannot be used for bringing rain clouds to rainfall deficit/drought areas. These techniques can only induce potential pre-existing clouds with adequate cloud droplets, to produce enhanced quantum of rain.

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