

## **CRIDA : HYDERABAD**

### **Answer to the provisionally admitted question for the Rajya Sabha - Q.No. 2203**

#### **a) Whether some states have planned cloud seeding to stem crisis; and**

Yes, Some state governments viz. Maharashtra, Karnataka, Tamil Nadu and Andhra Pradesh have attempted Cloud seeding operations in their states in India.

#### **b) If so , the details thereof and its status in each state, particularly in Andhra Pradesh;**

In India, Cloud seeding operations have been conducted during

- 1951- Tata firm over western Ghats using ground based silver iodide generators
- 1957- 1966 National Physical Laboratory (NPL) conducted experiments using ground based generators, in North India.
- 1973-1974,1976,and1979-86 IITM, experiments with cloud seeding shows 24% increase in the rainfall
- 1983,1984-87,1993-94Tamil Nadu Govt carried out cloud seeding
- 1990-2000 witnessed many advances in the airborne instrumentation, radars, flares and software. They got imported to India in new millennium.
- 2003 Karnataka Govt. has initiated cloud seeding with modern gadgets like radars and aircrafts. Maharashtra Govt followed a month later.
- 2003- 2009 Andhra Pradesh Govt. has conducted cloud seeding operations perhaps the longest & biggest programme in southeast Asia.

#### **Cloud seeding operations in Andhra Pradesh**

In Andhra Pradesh cloud seeding was started in the year 2003 and has been continued year after year till 2009. In 2003 the cloud seeding was monitored by WALAMTARI while it was Panchyat Raj Department in the year 2004. Later from the year 2005 onwards the Government of Andhra Pradesh has created Rain shadow Areas Development (RSAD) Department and entrusted the monitoring of the Cloud Seeding to Jawaharlal Nehru Technological University, Hyderabad (JNTUH) in view of the program's Scientific and Technological nature. The JNTUH in turn has established a separate department namely Centre for Earth, Atmosphere and Weather Modification Technologies (CEA &WMT) and has been monitoring the Cloud Seeding Programme with experienced and expert Meteorologists since the year 2005. The rainfall enhancement was 12.8% in the year 2005, 17.2% in 2006. 19.17% in 2007, 18.25% in 2008 and 17.01% in 2009 respectively.