

**GOVERNMENT OF INDIA
MINISTRY OF EARTH SCIENCES
RAJYA SABHA
UNSTARRED QUESTION NO. 492
TO BE ANSWERED ON THURSDAY, DECEMBER 03, 2015**

Country's record in predicting rain

492 SHRI RANJIB BISWAL:

Will the Minister of EARTH SCIENCES be pleased to state:

- (a) whether according to a recent international audit, India's record at predicting the vital rain bearing system is not sufficiently good with an accuracy rate of fifty percent;**
- (b) if so, the details thereof and the reasons therefor;**
- (c) whether Government is working on a new monsoon mission aimed at achieving a better skill level by upgrading the model;**
- (d) if so, the details thereof and the funds spent/likely to be spent in this regard; and**
- (e) whether Government has set up a cloud physics lab in Maharashtra's Mahabaleshwar city in this regard and if so, the details of the achievements made by it so far?**

ANSWER

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

- (a-b) No sir. There is no practice of international auditing of forecast issued by any country. The weather forecasting systems in the country are comparable to most of the countries in the world with respect to rainfall forecasting. Efforts are being made to optimize the level of efficiency of the forecasting systems. During the past few years, the Earth System Science Organization-India Meteorological Department (ESSO-IMD) has been continuously improving weather prediction services in terms of accuracy, lead time and associated impact. Manifestation of such quantitative improvement may be seen with accurate prediction of Monsoon 2015 and Very Severe Cyclonic Storms "Phailin", "Hudhud" and the heavy rainfall events during monsoon season of 2014 and 2015. The Deep depression 8-10 November, 2015 which crossed Tamilnadu coast near pudduchery were correctly predicted.**

Performance evaluation of seasonal long range forecast of summer monsoon rainfall for India as a whole suggests a global reduction of absolute error (difference between forecast and actual rainfall) of 5.92% for the 13 years (2003 - 2015) of Long Period Average (LPA) as compared to 7.94% the preceding period (1990 -2002) .

- (c-d) Yes Sir. Government has launched the National Monsoon Mission to set up a state-of-the-art coupled ocean-atmospheric climate model for a) improved prediction of monsoon rainfall on extended range to seasonal time scale (16 days to one season) and b) improved prediction of temperature, rainfall and extreme weather events on short to medium range time scale (up to 15 days).**

The mission is envisaged to achieve the operational implementation of the state-of-the-art dynamical prediction system for more accurate monsoon rainfall prediction on all spatial and time scales over the Indian region. The improved system will help us in issuing more accurate short range forecasts (up to 3days) and warnings for extreme weather events like heavy rainfall events, active (heavy) and break (weak) spells during the monsoon season in advance and more accurate seasonal forecasts for all -India monsoon rainfall.

The details of funds incurred to improve monsoon prediction to all time scale during last three years are given below.

S. No.	Year	Expenditure Incurred (Rupees in Crores)
1	2012-13	11.94
2	2013-14	11.65
3	2014-15	25.69

- (e) Yes Sir. A High-Altitude Cloud Physics Laboratory at Mahabaleshwar in Western Ghats is established by ESSO-IITM, Pune. The high-altitude Cloud physics Laboratory, Mahabaleshwar has completed one year of observations of cloud physics and aerosol. X-Band and Ka-Band radars have been deployed at Mandhardev in co-location with each other for spatial/ temporal distributions of precipitation and clouds respectively. Study microphysical characteristics of aerosols ,clouds and associated environmental conditions are pursued.**
