

**GOVERNMENT OF INDIA
EARTH SCIENCES
LOK SABHA**

UNSTARRED QUESTION NO:653

ANSWERED ON:08.07.2009

WEATHER FORECAST

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Will the Minister of EARTH SCIENCES be pleased to state:

- (a) whether the India Meteorological Department (IMD) has been able to forecast accurately about the monsoon activities and natural calamities in the country;
- (b) if so, the details thereof pertaining to the last three years and the current year;
- (c) if not, the reasons therefor;
- (d) the expected rainfall predicted during the current year;
- (e) whether the Government proposes to equip the Department with modern equipments so that it could make timely and accurate weather forecast; and
- (f) the steps taken by the Government in this regard?

Answer

MINISTER OF THE STATE (INDEPENDENT CHARGE) IN THE MINISTRY OF SCIENCE AND TECHNOLOGY, MINISTRY OF THE STATE IN THE MINISTRY OF EARTH SCIENCES, MINISTER OF THE STATE IN THE MINISTRY OF PRIME MINISTER'S OFFICE, MINISTER OF THE STATE IN THE MINISTRY OF PERSONNEL, PUBLIC GRIEVANCES & PENSIONS AND MINISTER OF THE STATE IN THE MINISTRY OF PARLIMENTARY AFFAIRS (SHRI PRITHVIRAJ CHAVAN)

(a&b) India Meteorological Department (IMD) issues various types of monsoon rainfall predictions to the users. Details of forecast verification are presented below:

(i) Long range rainfall forecast for the southwest monsoon season (June-September) for the country as a whole and also for 4 homogeneous regions. The forecast is issued in 2 stages, first in April with the data up to March and the second by end of June with the data up to May.

REGION	2006	2007	2008			
	ACTUAL	FORECAST	ACTUAL	FORECAST	ACTUAL	FORECAST
	(% of LPA)	(% of LPA)	(% of LPA)	(% of LPA)	(% of LPA)	(% of LPA)

ALL INDIA (JUNE-SEPT)	100	92 (±4)	106	93 (±4)	98	100 (±4)
ALL INDIA (JULY)	98	97 (±9)	98	95 (±9)	83	98 (±9)
NORTHWEST INDIA	94	91 (±8)	85	90 (±8)	107	96 (±8)
NORTHEAST INDIA	83	94 (±8)	104	98 (±8)	94	101 (±8)
CENTRAL INDIA	116	90 (±8)	108	96 (±8)	96	101 (±8)
SOUTH PENINSULA	95	97 (±8)	126	94 (±8)	96	98 (±8)

(ii) Short range rainfall predictions, up to 3 days, are generated daily for all 36 Meteorological sub-divisions in the country. Average skill of rainfall predictions was found to be in the range of 71-96% during 2006; 72-92% during 2007 and 76-85% during 2008.

(iii) Medium range rainfall predictions (3-7 days) are generated for the whole country and based on which Agro-Advisory Service (AAS) covering 127 agro-climatic zones(cluster of 4-6 districts) is operated twice weekly (Tuesdays and Fridays) with valid predictions for next 4-days. Average skill of rainfall predictions was found to be 62% during 2006, 63% during 2007 and 62% during 2008.

During the current year Southwest monsoon set in over Andaman Sea around its normal date, on 20th May. On 14th May 2009, IMD issued forecast for onset of monsoon over Kerala as 28th May with a model error of ± 4days. The onset occurred over Kerala on 23rd May.

Southwest monsoon covered most parts of Karnataka, Coastal Andhra Pradesh, Rayalaseema, most parts of West Bengal and northeastern States by the first week of June. After a lull of about two weeks, the southwest monsoon advanced over most parts of

central and North west India by 30th June and over the remaining parts of northwest India on 1 and 3 July. Thus, southwest monsoon has covered the entire country about 12 days earlier than its normal schedule.

For Tropical Cyclone the 24 hours landfall forecast errors based on data during last three years (2007-2009) is on an average about 85 Km. The error is comparable with the forecast errors of the other cyclone warning centres of the world.

As regards earthquakes, it may be mentioned that forecasting of earthquakes in term of space, time and magnitude is not yet possible anywhere in the world. Hence, no forecast on earthquakes is possible that could be issued. However, timely reporting of information on earthquake occurrences in and around the country is being done.

(c) Not Applicable

(d) The various long range forecasts for 2009 SW Monsoon rainfall issued by IMD on 24th June, 2009 is given below. From this year IMD has started to give forecast for August for the country as a whole.

REGION Forecast
% of LPA

ALL INDIA
(June to September) 93 $\hat{\pm}$ 4
ALL INDIA (July) 93 $\hat{\pm}$ 9
ALL INDIA (August) 101 $\hat{\pm}$ 9
NORTHWEST INDIA 81 $\hat{\pm}$ 8
NORTHEAST INDIA 101 ($\hat{\pm}$ 8)
CENTRAL INDIA 92 $\hat{\pm}$ 8
SOUTH PENINSULA 93 $\hat{\pm}$ 8

(e) Yes Sir.

(f) The Government has taken concrete steps in the Xth five year plan in the form of a comprehensive modernization programme for IMD for improving the accuracy of weather forecast in all temporal and spatial scales. This involves

(i) Focusing on strengthening the existing observational network with expansion, improving the forecasting methodology and quick dissemination of weather forecast assessments/warnings to the users.

(ii) Focused R & D initiatives on understanding the Indian monsoon rainfall variability and its prediction; increasing the accuracy of medium range weather prediction and potential predictability of monsoon.