

**GOVERNMENT OF INDIA
EARTH SCIENCES
LOK SABHA**

UNSTARRED QUESTION NO:6559
ANSWERED ON:06.05.2015
CYCLONE MONITORING
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Will the Minister of EARTH SCIENCES be pleased to state:

- (a) whether the Government is providing basic facilities for the implementation of the cyclone monitoring and prediction services and if so, the details thereof;
- (b) whether the government is implementing new alternatives/techniques to keep a track on the monitoring services;
- (c) the monitoring mechanism of this programme held by the Government; and
- (d) the funds allocated by the Government during the last three years?

Answer

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

(a-b) Yes Madam. Earth System Science Organization–India Meteorological Department (ESSO-IMD) operates 24X7 monitoring of satellite and Doppler Weather Radar (DWR) based weather monitoring over the potential cyclogenetic zones of the Bay of Bengal and Arabian Sea for detecting the cyclogenesis. Commissioning of the high performance computing (HPC) system has provided opportunity to assimilate satellite radiance, Doppler Weather Radar (DWR), OCEANSAT (scatterometer, total precipitable water content) data etc. of global oceans in to the global (22Km grid scale)/meso-scale(9Km grid scale) forecast systems. The performance evaluation of the updated global/meso-scale forecast systems in continuation with adoption of improved local forecast systems for the past 5-7 years have demonstrated enhanced forecast skill by about 18% quantitatively as far as the track and landfall forecasts of the tropical cyclones are concerned.

As and when the cyclone systems move in to the 500Km surveillance range of DWRs, identification of strong wind zones and pockets of heavy rainfall within the core cyclone area is carried out and their rapid changes are monitored on continuous basis. ESSO-IMD currently operates 5-Doppler Weather Radars (DWR) at Chennai, Machilipatnam, Visakhapatnam, Kolkata, Sriharikota on the east coast, 679 Automatic Weather Stations (AWS) and 1291 Automatic Rain Gauges (ARG) have been commissioned covering all districts of India. With the commissioning of the state-of-the-art observing, monitoring/ early warning and data visualization/ information processing and communication technologies, several manual operations have been fully automated.

By leveraging all available modeling and observing systems along with persistent efforts, ESSO-IMD is able to increase the lead time forecast of cyclones upto 5-7 days and to reduce the track and landfall errors of cyclones by about 7% over the last 3-4 years. ESSO continuously guides the expansion, planning and augmentation of land, ocean and satellite based observing systems and implementation of advanced data assimilation forecast systems along with augmentation of high end computing, network, data reception and warning dissemination infrastructure from time to time.

(c) ESSO council serves as a Monitoring and Advisory Committee to evaluate progress of various programmes every six months and suggests remedial measures. ESSO-IMD participates in the pre-cyclone exercise twice a year in the month of April and September to take stock the observational systems and plan for the ensuing cyclone season.

(d) Funds allocated by the Government for the scheme "Atmospheric Observation Systems Networks" for all observing systems during the last three years are as follows:

in Crores.

S.No.	Year	Funds allocated
1	2012-13	206.00
2	2013-14	200.00
3	2014-15	190.00
	TOTAL	596.00