GOVERNMENT OF INDIA
EARTH SCIENCES
LOK SABHA

STARRED QUESTION NO:246
ANSWERED ON:11.08.2010
UPGRADATION WORK OF IMD
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Will the Minister of EARTH SCIENCES be pleased to state:

(a) the progress made in the upgradation of the observational infrastructure of the India Meteorological Department (IMD) and its computing power to provide better forecasting of weather and monsoon in the country;

(b) whether the ability of the IMD to accurately forecast weather and monsoon well in advance has improved as a result of such upgradation; and

(c) if so, the details thereof?

Answer

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

(a) − (c) A statement is laid on the Table of the House.

STATEMENT REFERRED TO IN REPLY TO PARTS (a) to (c) OF THE LOK SABHA STARRED QUESTION No. 246 FOR ANSWER ON 11th AUGUST, 2010

UPGRADATION WORK OF IMD

(a) The Government, as part of its XI five year plan, is implementing a comprehensive modernization programme for India Meteorological Department (IMD) covering (i) observation systems (ii) advanced data assimilation tools (iii) advanced communication and IT infrastructure (iv) high performance computing systems and (v) intensive/sophisticated training of IMD personnel to facilitate the implementation of advanced global/regional/meso- scale prediction models for improving the accuracy of weather forecasts in all temporal and spatial scales and for quick dissemination of weather forecast assessments/warnings to the users.

The progress made till date in respect of the upgradation/commissioning of the observational infrastructure of the IMD, taken up under Phase-I of the upgradation programme is given below:

Instrumentation	Type	Number planned for Phase I	Progress of Implementation
Automatic Rain Gauge	(ARG)	1350	323
Automatic Weather Station	(AWS)	550	316
Doppler Weather Radar	(DWR)	13	2
Wind Profiler		7	In progress
Pilot Balloon		70	65
Aeronautical Instrumentation		28	8
Upgraded Radiosonde		5	11

High Performance Computing System (HPCS) with peak computing power of 14.4 Tera FLOPS (1012) FLoating point Operations per Second) is now fully functional in IMDs Head Quarters (HQs) in Delhi. The HPCS of IMD HQs receives global observational data on continuous basis (24X7) that enabled to build a platform for generating global and regional forecasts, involving a suite of global/regional/meso scale models, for the purpose of forecast guidance in short (1-3 days) and experimental medium range (up to 10-days). These new range of numerical weather prediction (NWP) products are used for generating forecast assessment by various regional and state meteorological offices of IMD.

Further, specific NWP inputs are also generated for disseminating the input fields for operating very high resolution models (9Kms grid scale) that are being run at regional offices of IMD for their respective domains of country. To facilitate for the operation of high resolution meso-scale models at regional scale and to exchange forecast products across the state forecast offices in the country, high end computing servers are commissioned at 12 different locations viz. Pune, Delhi, Kolkata, Chennai, Mumbai, Guwahati,

Nagpur, Ahmedabad, Bangalore, Chandigarh, Bhubaneswar and Hyderabad).

(b) Yes Madam.

(c) Improvement of weather forecasting services is a continuous process. Methodologies and modeling frameworks that have undergone rigorous performance evaluation in operational R & D environment are being adopted subsequent to the commissioning of HPCS in IMD HQs for enhancing the weather forecasting capacities through:
i) Implementation of numerical prediction models with 35Km grid globally and 27Kms/9Kms/3Kms/1Km grid over India/regional/mega city domains are already implemented.
ii) Assimilating all available global satellite radiance data in the numerical models.

Beginning monsoon-2010, for the first time on experimental basis, spatial rainfall forecast outlook (7-day forecasts followed by 7-day outlook) and probabilistic spatial monthly scale rainfall scenarios (indicative above/below normal activity over various parts of the country) are being generated and hosted on IMDs web-site. All these newly implemented rainfall assessment tools are currently undergoing performance evaluation so as to assess their operational suitability and plan for their improvement.