GOVERNMENT OF INDIA
MINISTRY OF EARTH SCIENCES
LOK SABHA
STARRED QUESTION No. ***397**
TO BE ANSWERED ON THURSDAY, FEBRUARY 20, 2014

FORECASTING CAPABILITY

***397. SHRI BHISMA SHANKER ALIAS KUSHAL TIWARI**:

Will the Minister of **EARTH SCIENCES** be pleased to state?

(a) the details of the status of the various ongoing research projects undertaken by Earth System Science Organization and UK jointly, project-wise;
(b) whether the said projects would help us to improve our forecasting capability of various weather and climate related phenomena and natural hazards;
(c) if so, the details thereof; and
(d) the other steps taken/being taken by the Government in this regards?

ANSWER
MINISTER FOR MINISTRY OF SCIENCE AND TECHNOLOGY AND
MINISTRY OF EARTH SCIENCES
(SHRI S. JAIPAL REDDY)

(a) – (d) A statement is laid on the Table of the House.

STATEMENT LAID ON THE TABLE OF THE LOK SABHA IN REPLY TO (a) to (d) OF STARRED QUESTION No. *397 REGARDING "FORECASTING CAPABILITY" ASKED BY SHRI BHISMA SHANKER ALIAS KUSHAL TIWARI FOR ANSWER ON THURSDAY, FEBRUARY 20, 2014

(a) MoU was signed on 1st March 2013 with Natural Environment Research Council (NERC) to establish an appropriate research cooperation umbrella between the UK and Indian earth system science, climate and environmental research communities. The endeavor of the MoU will be to promote collaboration in the area of Meteorology, Oceanography, Climate variability and change, hydrology, cryosphere, natural hazards and biodiversity by promoting information sharing and identification of new opportunities of collaboration through networking, exchange of scientific and technical capacities, and co-funding of research projects through joint calls. It is envisaged that the MoU provides a suitable joint research and development mechanism to address some of the significant scientific challenges in the Asian region relating to improved understanding of the regional scale monsoon; the possible influence of weather and climate circulation patterns of northern Europe; and the important (and poorly understood) changing water cycle where in interactions between climate, glaciers, groundwater and whole sustainability of water resources. The following projects have been taken up:

(i) Hydrologic and carbon services in the Western Ghats: Response of forests and agro-ecosystems to extreme rainfall events (With University of Dundee)
(ii) South Asian Precipitation : A Seamless Assessment SAPRISE (With University of Exeter)
(iii) Hydro-meteorological feedback and changes in water storage and fluxes in northern Indian basins (With Imperial College, London)
(iv) Mitigating climate change impacts on India agriculture through improved irrigation water Management (with Heriot-Watt University)
(v) The structure and dynamics of groundwater systems in north western India under past, present and future climates (With Durham University)

Under the Monsoon Mission program, as against the international call for research proposals to improve the monsoon prediction, the following projects have been taken up with UK

(vi) Improved Indo-UK capability for seamless forecasting of monsoon rainfall: from days to the Season (with University of Reading)
(vii) Indian Monsoon Data Assimilation and Analysis (IMDAA) (with U.K. Met Office)
(viii) Stochastic Parameterization and Forecasting of wind energy in India (with Imperial College)

(b) Yes Madam.

(c) The projects under monsoon mission are taken up to improve our capability for forecasting of monsoon rainfall from days to the season using the identical modelling framework and to characteristic dynamical onset, development and decay of the Indian monsoon from 1979 onwards.

(d) Under the institutional cooperation initiative between the Earth System Science Organization – National Centre for Medium Range Weather Forecasting (ESSO-NCMRWF) and United Kingdom Meteorological Office (UKMO), global data assimilation – forecast system of UKMO is currently under exhaustive performance evaluation in respect of capturing local/regional/global scale monsoon rainfall prediction.

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