GOVERNMENT OF INDIA
MINISTRY OF EARTH SCIENCES
LOK SABHA
UNSTARRED QUESTION No. 2027
TO BE ANSWERED ON FRIDAY, NOVEMBER 29, 2019

MEASURES FOR RECURRING DISASTERS

2027. SHRI COSME FRANCISCO CAITANO SARDINHA:

Will the Minister of EARTH SCIENCES be pleased to state:

(a) whether there is early warning or preventive measures taken for recurring disasters like cyclones and floods in Maharashtra, Goa, Bihar, Kerala, etc. despite an agency called Disaster Mitigation Authority;
(b) if so, the details thereof and the role and achievements of Disaster Mitigation Authority vis-a-vis increased frequency of recurrence of such disasters; and
(c) if not, the reasons therefor?

ANSWER
MINISTER FOR MINISTRY OF SCIENCE AND TECHNOLOGY AND MINISTRY OF EARTH SCIENCES
(DR. HARSH VARDHAN)

(a)-(b) India Meteorological Department (IMD) is well equipped to predict the genesis, track, landfall point & time and intensity of cyclones accurately before hitting the coast. IMD continuously expands its infrastructure for meteorological observations, data exchange, monitoring & analysis, forecasting and warning services using contemporary technology. IMD uses a suite of quality observations from Satellites, Radars, conventional & automatic weather stations and buoys for monitoring of cyclones developing over the Bay of Bengal and Arabian Sea. IMD has one of the best forecasting systems for predicting tropical cyclones, using high resolution weather prediction models including global, regional and cyclone specific models. The ensemble forecast systems introduced in the recent past provide probabilistic guidance for tracking and predicting intensity of cyclones and depressions. Regional models like atmospheric ocean coupled Hurricane Weather Research Forecast (HWRF) have also been implemented to generate forecasts at very high resolution of 2km. IMD has a very effective Decision Support System for analysing various observations at a single platform and predicting track and intensity of cyclones as well as the adverse weather like heavy rain and wind. IMD also utilises storm surge and coastal inundation models and wave models output from Indian National Centre for Ocean Information Services (INCOIS), Hyderabad) for issuing storm surge warnings.

During 2018, following initiatives were taken to further improve the warning services of tropical cyclones: (i) Introduction of extended range outlook for cyclogenesis for next two weeks (ii) Increase in lead period of cyclogenesis forecast from 72 hrs to 120 hrs. (iii) Introduction of quantitative track and intensity forecast from depression stage (iv) Fishermen warning for entire Bay of Bengal and Arabian Sea instead of coastal areas only (v) Extension of lead period of fishermen warnings from 24 hrs to 120 hrs (vi) Conduct of fishermen workshops for all coastal areas (vii) Issue of joint IMD-INCOIS fishermen warning bulletins (viii) Establishment of cyclone warning centre at Tiruvananthapuram for issue of cyclones related warnings and bulletins for the states of Kerala, Karnataka and Lakshadweep Islands.

Heavy rainfall events lead to floods over different river basins of the country. River basin floods are dealt by the Central Water Commission (CWC), Ministry of Water Resources. In order to meet specific requirements of flood forecasting, which is provided by CWC, Ministry of Water Resources, IMD operates Flood Meteorological Offices (FMOs) at thirteen locations viz., Agra, Ahmedabad, Asansol, Bhubaneshwar, Guwahati, Hyderabad, Jalpaiguri, Lucknow, New Delhi, Patna, Srinagar, Bengaluru and Chennai. Apart from this, IMD also supports Damodar Valley Corporation (DVC) by providing Quantitative Precipitation Forecast (QPF) for Damodar river basin areas for their flood forecasting activities. Central Water Commission is working in close association with IMD and State Governments for timely flood forecast whenever the river water level rises above warning level. FMOs provide meteorological support to the CWC for issuing flood warnings well in advance in respect of the 43 rivers of India covering 146 river basins. CWC issues flood forecasts 6 hrs. to 30 hrs. in advance for 176 stations using QPF received from FMOs of ESSO-IMD and in-situ hydrometeorological data.

IMD is dedicated for monitoring, detection and forecasting of weather and climate including early warning for severe weather events such as cyclones, heavy rainfall, extreme temperature etc. The weather forecasting and early warning systems in the country are comparable to most of the developed countries in the world. Efforts are continuously made to enhance the level of efficiency of the forecasting systems and to improve the skill of weather forecasts. During the past few years, IMD has been continuously improving weather prediction services in terms of accuracy, lead time and associated impact. The accuracy of the weather forecast is more than 80% qualitatively and 65-70% quantitatively for various regions in the country. With the upgradation of observations and prediction system, noticeable improvements have been made in the recent past in the skill of prediction, especially with respect to heavy rainfall, cyclones and heatwave.

Disaster Management Division of Ministry of Home Affairs (MHA) has operational Early Warning Dissemination System (EWDS) in the states of Odisha and Andhra Pradesh. Works for installation of EWDS is under tendering process in the states of West Bengal, Kerala, Karnataka, Gujarat, Goa and Maharashtra.

(c) Does not arise.

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