

**GOVERNMENT OF INDIA
MINISTRY OF EARTH SCIENCES
LOK SABHA
UNSTARRED QUESTION No. 2511
TO BE ANSWERED ON WEDNESDAY, MARCH 11, 2015**

TSUNAMI WARNING CENTRES

**2511. SHRI M. MURALI MOHAN:
SHRI A. ARUNMOZHITHEVAN:**

Will the Minister of EARTH SCIENCES be pleased to state:

- (a) The details of Tsunami Warning Centres functioning in the country, location and State-wise;**
- (b) whether the Government proposes to extend its GIS based 3D protocol on tsunami warning and if so, the details and its likely benefits;**
- (c) whether the Government also proposes to set up Tsunami Warning Centres at various locations including Visakhapatnam and Kakinada;**
- (d) if so, the details thereof, location- wise; and**
- (e) the details of funds sanctioned/ released in this regard?**

ANSWER

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

- (a) The Government has established a state-of-the-art Tsunami Warning Centre at Indian National Centre for Ocean Information Services (INCOIS), Hyderabad. This centre has been made fully operational since September 2007 and is equipped to provide timely tsunami warnings for India and the countries in the Indian Ocean region on 24 x7 basis. The Indian Tsunami Warning System comprises various real time monitoring networks, seismic monitoring network; bottom pressure recorders; tide gauges etc., to monitor tsunami waves. These real time observing networks are backed up by a hierarchical database of pre-run tsunami travel time and inundation scenarios; robust standard operational procedures (SOPs) and communication facilities for generation and dissemination of different categories of warnings. The three critical steps involved in generation of tsunami warnings include i) detection of earthquakes and estimation of earthquake parameters; ii) estimation of travel time and run-up height of tsunami; iii) confirmation of tsunami by monitoring sea level.**
- (b) Yes Madam. On pilot basis such database is generated for Cuddalore and Nagapattinam districts of Tamilnadu. The 3 D GIS layers shall provide details of duration, depth and extent of predicted Tsunami inundation in habitated zones of coastal areas for planning effective emergency response actions.**
- (c) No Madam.**
- (d) Does not arise.**
- (e) Does not arise.**
