GOVERNMENT OF INDIA
MINISTRY OF EARTH SCIENCES
RAJYA SABHA
STARRED QUESTION NO. ***140**
TO BE ANSWERED ON MONDAY, DECEMBER 03, 2012

UPGRADATION OF ITEWC

***140. SHRI JAI PRAKASH NARAYAN SINGH:**

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

a) whether it is a fact that the Ministry is planning to upgrade the Indian Tsunami Early Warning Centre (ITEWC) to the level of global Tsunami warning system by networking it with other Tsunami centres across the world.

b) if so, the details in this regard; and

c) the objectives behind upgrading the present system and the cost of its upgradation?

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

(a) to (c): A Statement is laid on the Table of the House.

STATEMENT LAID ON THE TABLE OF THE RAJYA SABHA IN REPLY (a) to (c) TO STARRED QUESTION NO. *140 REGARDING "UPGRADATION OF ITEWC" TO BE ANSWERED ON MONDAY, DECEMBER 03, 2012

a) Yes, the Indian Tsunami Early Warning Centre (ITEWC) is being upgraded continuously to provide tsunami advisories for the events occurring in the global oceans though it has been recognized as one of the best systems in the world. The major upgradation work involved in achieving this capability would be standardization of the operating procedures, bulletin formats and terminologies with warning centres operating in other global basins. To achieve this, the Intergovernmental Oceanographic Commission (IOC of UNESCO) has set up a task team comprising of experts from tsunami warning centres of all ocean basins, with India as the Chair.

b) The Indian Tsunami Early Warning Centre (ITEWC) has been established after the deadly Tsunami on 26 December, 2004 at Indian National Centre for Ocean Information Sciences (INCOIS - ESSO), autonomous body under Ministry of Earth Sciences, located at Hyderabad and is made fully functional to cover the entire Indian Ocean Region. The ITEWC encompasses a real-time seismic monitoring network of 17 broadband seismic stations to detect tsunamigenic earthquakes, a network of real-time sea-level sensors with 4 Bottom Pressure Recorders (BPR) in the open ocean and 25 tide gauge stations at different coastal locations monitor tsunamis and a 24 X 7 operational tsunami warning centre to provide timely advisories to vulnerable community. It also receives earthquake data from all other global networks to detect earthquakes of M>6.5. The state-of-the-art early warning centre at (INCOIS – ESSO) is operational since October 15, 2007 with all the necessary computational and communication infrastructure that enables reception of real-time data from seismic & sea-level sensors, analysis of the data, tsunami modeling, and dissemination of tsunami advisories guided by a comprehensive Standard Operating Procedure (SOP). The SOP is being periodically updated for issue of timely, reliable and accurate tsunami bulletins. A host of all available communication technology options have been employed for timely dissemination of advisories to various designated authorities to deal with effective emergency response actions as appropriate. The centre is capable of detecting tsunamigenic earthquakes occurring in the whole of Indian Ocean region as well as in the Global Oceans within 10 minutes of their occurrence and disseminates the advisories to the concerned authorities within 20 minutes through various modes of communication like email, fax, SMS, GTS and website. Since its inception in October 2007 to till date, ITEWC has monitored 339 earthquakes of M > 6.5 out of which 63 are in the Indian Ocean region. ITEWC in its capacity as National Tsunami Warning Centre (NTWC) for India disseminates tsunami bulletins to various national contacts like the Ministry of Home Affairs (MHA) control room, National Disaster Management Authority (NDMA), Battalions of National Disaster Relief Force (NDRF), Coastal State disaster relief commissioners, Indian Navy, Administration of Nuclear Power plants in the coastal states, Disaster Management Administrators from Andaman & Nicobar Islands etc. ITEWC also acts as one of the Regional Tsunami advisory Service Provider (RTSP) along with Australia & Indonesia for the Indian Ocean region. In 2010, the Intergovernmental Coordination Group for the Indian Ocean Tsunami Warning and Mitigation System (ICG-IOTWS) had entrusted the responsibility to India to chair the Working Group on "Tsunami Detection, Warning and Dissemination".

c) Tsunamis are infrequent, but the death toll from tsunamis is huge compared with other natural disasters. The tsunami waves can travel very long distances in the ocean with very long wavelengths carrying huge amounts of energy with them. For example the tsunami generated by Chile earthquake in 2010 has affected Tohuku in Japan which is few thousand kilometres away from the epicenter. Even the waves of 2004 Indian Ocean tsunami have reached far up to Somalia in South Africa. As the oceans on the earth are interconnected, the tsunami waves generated due to any great earthquakes in the global oceans can affect the Indian Coasts. In order to protect our coasts from tsunamis up-grading the present system is very essential. Up-gradation of ITEWC will also enhance its capability to provide tsunami advisories to the other needy countries in the world. The basic infra-structure and the necessary computational facilities are established while setting up the Indian Tsunami Early Warning Centre and hence no major hardware upgradations are proposed.. The maintenance of the entire early warning system is carried out with a budget allocation of Rs. 17.00 Crores per annum. Model simulations required for global operations would be run as part of this itself. Additional data required for the enhancement of ITEWC for global operations can be obtained by collaborations with centres operating in other countries.

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