

THE MINISTER OF STATE IN THE MINISTRY OF CORPORATE AFFAIRS (SHRI R.P.N. SINGH): (a) to (c) The Government has taken various steps to encourage adoption of Corporate Social Responsibility (CSR) activities by the companies, such as;

- (i) The Department of Public Enterprises has issued guidelines for Central Public Sector Enterprises (except those making losses) to mandatorily create a CSR budget.
- (ii) In July, 2011, National Voluntary Guidelines on Social, Environmental and Economic Responsibilities of Business were released for guidance of companies in general.
- (iii) The Companies Bill, 2011 proposes that companies, depending upon their networth, turnover and net profit, shall endeavour to spend in every financial year, atleast 2% of the average net profit made during the three immediately preceding financial years, towards a range of activities including welfare of SCs, STs, OBCs, minorities and women, in pursuance of its CSR policy.

**Wireless technology system to predict natural calamities**

4864. SHRI BAISHNAB PARIDA: Will the Minister of EARTH SCIENCES be pleased to state:

- (a) whether an university has developed (Amrita) wireless technology system to predict natural calamities in the country;
- (b) if so, the details thereof;
- (c) whether any State or the Central Government has equally shown interest in such a technology;
- (d) if so, the details thereof;
- (e) whether any other country has also developed such a technology; and
- (f) if so, the details thereof?

THE MINISTER OF STATE IN THE MINISTRY OF EARTH SCIENCES (SHRI. ASHWANI KUMAR): (a) and (b) No Sir. However, a pilot deployment of a tailored real time wireless sensor network (WSN) is designed and developed by the Amrita University for monitoring and detection of heavy rainfall induced landslides only over a selected hill slope of Munnar, Kerala. Extensive field experiments will have to be conducted for determining the effects of density of the nodes,

vegetation, location of sensor columns etc., for detecting rainfall induced landslides that may possibly help in the development of low cost wireless sensor network for landslide detection in the future.

(c) Yes Sir.

(d) The research group of the Amrita University is encouraged fully to fine tune and firm-up the methodology, as per the details at part-b) above, by the Government of India and North East Council.

(e) Yes Sir.

(f) Customized WSN systems, in a proof-of-concept mode, have been developed for drought monitoring in Taiwan and Africa, weather alerts in Thailand, Coastal Erosion Monitoring in India.

#### **New Tsunami warning system**

4865. DR. T. SUBBARAMI REDDY: Will the Minister of EARTH SCIENCES be pleased to state:

(a) whether new Tsunami Warning System; has been developed and installed in various parts of the country;

(b) if so, the details thereof;

(c) the details of funds allocated and released for the development of this technology during the last three years; and

(d) the details of areas in which this technology is working satisfactorily?

THE MINISTER OF STATE IN THE MINISTRY OF EARTH SCIENCES (SHRI ASHWANI KUMAR): (a) New state of the art Tsunami Warning Centre is already commissioned and made fully operational since 2007 in 24X7 mode.

(b) The Indian tsunami early warning centre (ITEWC) is equipped with world-class computational, communication and technical support facilities and is considered as one of the most modern tsunami warning centres as on date. The instrumentation of the ITEWC is built in a way to detect tsunamis originating from both identified tsunamigenic sources in the Indian Ocean and to become world class in respect of the quality of the warning service with minimal false alarm scenario generation possibility. Through critical monitoring and performance evaluation of the services provided by the ITEWC over the Indian Ocean, the Intergovernmental Coordination Group for the Indian Ocean Tsunami Warning and Mitigations System (ICG/IOTWS) of the Intergovernmental Oceanographic Commission of the United