

**GOVERNMENT OF INDIA  
SCIENCE AND TECHNOLOGY  
LOK SABHA**

STARRED QUESTION NO:151  
ANSWERED ON:02.12.2005  
EARTHQUAKE RESISTANT BUILDINGS  
Murmu Shri Hemlal

**Will the Minister of SCIENCE AND TECHNOLOGY be pleased to state:**

- (a) whether Central Building Research Institute(CBRI), Roorkee has developed modern earthquake resistant techniques for new buildings and for making the old houses and buildings earthquake resistant as per the norms set by the Bureau of Indian Standards;
- (b) if so, the details thereof; and
- (c) the steps taken by the Government for dissemination of the above technique?

**Answer**

MINISTER OF STATE (INDEPENDENT CHARGE) OF THE MINISTRY OF SCIENCE AND TECHNOLOGY AND MINISTER OF STATE (INDEPENDENT CHARGE) OF THE DEPARTMENT OF OCEAN DEVELOPMENT (KAPIL SIBAL)

(a)&(b) Yes, Sir, the Central Building Research Institute (CBRI), Roorkee is seized with the task of developing new techniques for making earthquake resistant buildings. It has also developed techniques for making old buildings earthquake resistant. These techniques are based on norms set by Bureau of Indian Standards. Since the techniques / norms are not fully developed some state governments already in anticipation of such norms have imposed an obligation of a certificate from a structural engineer for new constructions to ensure that the building is earthquake resistant.

The exercise of developing modern earthquake resistant techniques was undertaken by CBRI in 1991 after the tragedy of Uttarkashi earthquake. This exercise has to cover all possible structures in an area exposed to possible damage pursuant to an earthquake of a particular intensity. A beginning has been made and methodology required for vulnerability assessment has been developed for Jabalpur. Similar exercise has been started by CBRI for Delhi. Repair and retrofitting of damaged buildings has also been done by CBRI in Latur, Chamoli, Bhuj etc.

(c) As far as dissemination is concerned, CBRI liaises with different government departments and local bodies in the areas which are liable to more damage. However dissemination at that level is not adequate. What is needed is implementation through appropriate bodies and greater awareness among public of a possible danger to their lives if constructions are made without compliance to the norms. It requires greater involvement of society and public-private partnerships to spread the message that who do not conform to the norms do that at risk to their lives.