

- (e) Refining of the seismic zoning map with added seismotectonic and lithological details.
 - (f) Micro-zoning of Delhi, Bombay, Calcutta and Ahmedabad.
 - (g) Integration of remote sensing, geotectonic and seismicity maps to be taken up.
 - (h) The codes drawn up by the Bureau of Indian Standards to be adapted to the regions of the country by presenting the same in terms of the locally popular, traditional building materials and architectural and building practices.
- (c) The following follow-up actions have been initiated :—
- (i) A proposal for the creation of the post of Chief Seismologist has been taken up.
 - (ii) A Committee has been constituted under the Chairmanship of Prof. A. S. Arya, Prof. Emeritus, Rookee University to update the Mission Mode Project on Seismic Observations taking into account the requirements of Peninsular India and other parts of the country.
 - (iii) A Committee has been constituted under the Chairmanship of Dr. S. K. Arora, Bhabha Atomic Research Centre, (BARC), Bombay to prioritise seismic instrumentation in Peninsular India on an urgent basis.
 - (iv) Projects are being launched for studying geologic and geophysical features of the Marathwada region using remote sensing and ground surveys.
 - (v) A Group has been constituted with representatives from Department of Science & Technology, National Geophysical Research Institute, Department of Mines, Department of Agriculture, Ministry of Health, Ministry of Information & Broadcasting to issue

periodic bulletins on the seismic activity of Marathwada region. The Bulletins will cover the various aspects of the seismic activity, after effects, the rehabilitation and health care requirements. So far, five bulletins have been issued. The dissemination is being done in multilingual media.

Quake-Proof Designs of Houses

1040. SHRI SANTOSH KUMAR SAHU: Will the PRIME MINISTER be pleased to state :

(a) whether it is a fact that Government propose to provide quake-proof designs of houses for urban and rural areas and for housing bodies ; and

(b) if so, what activities have been undertaken in research design a publicity in rural areas by the CSIR, CBRI or NGRI in this regard ?

THE MINISTER OF STATE IN THE PRIME MINISTER'S OFFICE AND THE MINISTER OF STATE IN THE DEPARTMENTS OF ATOMIC ENERGY, SPACE WITH ADDITIONAL CHARGE OF THE MINISTER OF STATE IN THE MINISTRY OF SCIENCE AND TECHNOLOGY (SHRI BHUVNESH CHATURVEDI) : (a) and (b) A number of Government and other agencies have already initiated action in this regard in view of the extensive damage caused by the recent earthquakes.

Central Building Research Institute (CBRI), Rookee, a constituent Institute of Council of Scientific and Industrial Research (CSIR) had designed pre-fabricated intermediate level shelters known as 'Kedar Kut', for temporary rehabilitation of earthquake hit people of Uttar Kashi during 1991. Uttar Pradesh Public Works Department and other organisations constructed a few thousands of such shelters in Uttar Kashi region. This Institute is also assisting Maharashtra Housing and Area Development Authority (MHADA) in selecting appropriate earthquake resistant and cost effective technologies for reconstruction of houses in areas hit by the recent earthquakes.

As for publicising such activities, a Seminar was arranged during November, 91 at the Institute for voluntary, Government and other interested agencies to disseminate know-how on the design of Kedar Kuti. A publication entitled 'Kedar Kuti' was also published in Hindi for use of agencies undertaking earthquake relief work in Uttar Kashi region. A few prototypes of Kedar Kuti were erected by the Institute for demonstration purposes at Roorkee and at Uttar Kashi.

The Institute is further envisaging to provide on-the-spot training in the relevant building technologies to supervisors, masons and other skilled and unskilled workers in various villages of Maharashtra region hit by recent earthquakes.

1041. [Transferred to 17th December, 1993]

**Recommendations of the Expert Committee
Constituted for the Prediction of Earth-
quakes**

1042. SHRI BHUBANESWAR KA-
LITA :

SHRI KRISHNA KUMAR
BIRLA :

PROF. SAURIN BHATTA-
CHARYA :

Will the PRIME MINISTER be pleased to state :

(a) whether it is fact that Government had constituted an expert committee in 1987 on revamping earthquake prediction ;

(b) if so, whether the committee had submitted its report to Government and made several recommendations ;

(c) if so, the details of the recommendations made by the expert committee ;

(d) whether it is also a fact that Government have not acted upon the recommendations of the Committee and buried the report ; and

(e) if so, the facts thereof and reaction of Government thereto ?

THE MINISTER OF STATE IN THE PRIME MINISTER'S OFFICE AND THE MINISTER OF STATE IN THE DEPARTMENTS OF ATOMIC ENERGY, SPACE WITH ADDITIONAL CHARGE OF THE MINISTER OF STATE IN THE MINISTRY OF SCIENCE AND TECHNOLOGY (SHRI BHUVNESH CHATURVEDI) : (a) No, Sir.

(b) to (e) Do not arise.

**INDO-US Technological Relations Con-
sequent on Cryogenic Deal Controversy**

1043. SHRI DEBABRATA BISWAS : Will the PRIME MINISTER be pleased to state :

(a) whether it is a fact that Indo-US co-operation in Science and Technology is under stress, following the scuttling of the transfer of Cryogenic engine technology from Russia ;

(b) if so, whether the strained relations will adversely affect the joint Indo-US research Programme ;

(c) whether it is also a fact that the US has proposed a new agreement on Science and Technology ;

(d) if so, details of the US proposal ; and

(e) the reaction of Government thereto ?

THE MINISTER OF STATE IN THE PRIME MINISTER'S OFFICE AND THE MINISTER OF STATE IN THE DEPARTMENTS OF ATOMIC ENERGY, SPACE WITH ADDITIONAL CHARGE OF THE MINISTER OF STATE IN THE MINISTRY OF SCIENCE AND TECHNOLOGY (SHRI BHUVNESH CHATURVEDI) : (a) and (b) Since October 1989, the U.S. Government has been reviewing all new or expanded cooperative bilateral Science and Technology projects in the light of their position on Intellectual Property Rights. This review is not linked to the cancellation or otherwise of cryogenic engine deal with Russia.

(c) to (e) Yes, Sir. The proposed objective is to facilitate opportunities for co-operation in scientific and technological