GOVERNMENT OF INDIA
SCIENCE AND TECHNOLOGY
LOK SABHA

UNSTARRED QUESTION NO:2185
ANSWERED ON:02.12.2009
BRAIN MAPPING TECHNOLOGY
Singh Shri Radha Mohan

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

(a) whether the scientists in Neurology in California University have developed a new technique for brain mapping;

(b) if so, the details thereof;

(c) whether this new technique is likely to be used for research in the country;

(d) if so, the details thereof; and

(e) the time by which this technique is likely to be used in India?

Answer

MINISTER OF THE STATE (INDEPENDENT CHARGE) IN THE MINISTRY OF SCIENCE AND TECHNOLOGY; MINISTER OF THE STATE (INDEPENDENT CHARGE) IN THE MINISTRY OF EARTH SCIENCES; MINISTER OF THE STATE IN THE PRIME MINISTER'S OFFICE; MINISTER OF THE STATE IN THE MINISTRY OF PERSONNEL, PUBLIC GRIEVANCES AND PENSIONS; AND MINISTER OF THE STATE IN THE MINISTRY OF PARLIAMENTARY AFFAIRS (PRITHVIRAJ CHAVAN)

(a) & (b): Yes, Madam. The scientists of the Brain Mapping Centre, University of California have developed new application techniques and methodologies for brain mapping using existing instruments like electro-encephalography (EEG), magnetic resonance imaging (MRI) and positron emission tomography (PET). Neuroimaging and brain mapping techniques provide extraordinary power to understand neurological disorders, providing spatially detailed information on the extent and trajectory of the disease as it spreads in the living brain.

(c) to (e): Many of these facilities, except magneto-encephalography (MEG), are clinically available in a number of institutions across India. Some of the analytic techniques would be useful for the country and some of these are already being pursued in Indian institutions such as National Brain Research Centre (NBRC), Manesar, All India Institute of Medical Sciences (AIIMS), New Delhi, National Institute of Mental Health and Neuro Sciences (NIMHANS), Bangalore, Institute of Nuclear Medicine and Allied Sciences (INMAS), Delhi. The techniques are useful for both basic and applied research pertaining to the brain and nervous system, and their disorders, such as Alzheimer's disease, epilepsy, stroke and brain tumours. Scientists in India are already using a number of techniques developed by the California investigators and Indian scientists have joint research projects with the US scientists. A number of Indian clinicians, scientists and students have visited the centre and obtained the training. Our scientists have already initiated the electronic instrumentation aspects of MEG on a pilot level.