

**GOVERNMENT OF INDIA
ATOMIC ENERGY
LOK SABHA**

UNSTARRED QUESTION NO:4280
ANSWERED ON:21.04.2010
UNDERGROUND NEUTRINO OBSERVATORY LABORATORY
Thamaraiselvan Shri R.

Will the Minister of ATOMIC ENERGY be pleased to state:

- (a) whether the Government is considering to set up an underground Neutrino Observatory Project in Tamil Nadu;
- (b) if so, the details thereof;
- (c) whether the Government has taken any steps to allay the radiation fears among local people and environmentalists; and
- (d) if so, the details thereof?

Answer

THE MINISTER OF STATE FOR SCIENCE & TECHNOLOGY AND EARTH SCIENCES (INDEPENDENT CHARGE), PMO, PERSONNEL, PUBLIC GRIEVANCES AND PENSIONS AND PARLIAMENTARY AFFAIRS. (SHRI PRITHVIRAJ CHAVAN):

(a) Yes, Sir. The India based Neutrino Observatory (INO) is proposed to be set up through the Department of Atomic Energy and Department of Science & Technology. Presently a site in Bodi West Hills near T.Pudukottai village of Theni District, Tamilnadu has been identified as a suitable location.

(b) The project includes construction of a world class underground laboratory under a rock cover of at least 1200 m from all directions. This underground laboratory will be accessed by 75 meter wide tunnel of approximately 2 km in length. The primary goal of INO is to study neutrino properties. Determination of neutrino properties is one of the most significant open problems in Physics today. Such studies will help us in understanding the interactions among subatomic particles at a very small scale. In this underground laboratory a massive 50 kton particle detector will be installed to study the cosmic ray produced neutrinos. The project will put India back on the world-map of underground science, a position that was held by India during the 2nd half of the 20th century.

(c)& (d) There is no radiation involved in this experiment. Neutrinos have been around us from the beginning of the universe. In fact the experiment is required to be carried out underground only to avoid the cosmic ray particles. This is a very passive detector where the neutrinos already existing in nature will be detected. Scientists involved in this project are clarifying this to the local population by organizing interaction meetings with the local people as well as through public outreach programmes. A meeting was also organized by the District Collector of Theni District, Tamilnadu in his office on 25th January 2010, where the INO scientists explained the salient features of this project to the local MLA, Panchayat Presidents, representatives of farmers etc.