

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

UNSTARRED QUESTION NO:1759  
ANSWERED ON:04.08.2010  
NANO SCIENCE AND TECHNOLOGY MISSION  
Bheiravdanji Shri Gadhi Mukeshkumar

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

- (a) the steps taken by the Government for promotion and development of Nano Science and Technology in the country;
- (b) the present status of network of Nano-Science and Technology Mission in the country including Gujarat, State-wise;
- (c) whether the Government proposes to allocate more funds to encourage effective research in this field; and
- (d) if so, the details thereof and the funds allocated for the purpose during the last three years and the current year?

**Answer**

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

(a): A Research and Development Programme called the "Nano Science and Technology Initiative(NSTI)" was launched by the Department of Science and Technology (DST) in October 2001. Department of Information Technology (DIT), Department of Biotechnology (DBT) and Council of Scientific and Industrial Research (CSIR) have initiated several other Research Development projects. Considering the immense potential, the Government of India launched a Mission on Nano Science and Technology(Nano Mission) on 3rd May 2007 with an allocation of Rs. 1000 crore for 5 years. The Department of Science and Technology is the nodal agency for implementing the Nano Mission. The aims of the Nano Mission are to:-

- (i) promote Basic Research and Human Resource Development;
- (ii) establish Centres of Excellence and Sophisticated Research Facilities, promote Applications and Technology Development by encouraging industry by way of grants and soft loans to undertake such work on its own or in collaboration with academic and research institutions;
- (iii) promote entrepreneurship by extending grants and soft loans to start-ups and through establishment of Technology Business Incubators;
- (iv) forge international collaborations wherever necessary.

As part of the Nano Science and Technology promotion programmes, including the Nano Mission, several initiatives have been taken. These are:

- (i) An Institute of Nano Science and Technology has been established at Mohali as a new grant-in-aid institution of DST at a total cost of Rs. 142.50 crore for 5 years. This institute will focus on agri- and bio-nano technologies.
- (ii) An Ultra High Resolution Aberration Corrected Transmission Electron Microscope has been installed as a national facility at the Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore. There are only 25-30 such facilities in the world. This would enable our scientists to look at nano-scale systems with sub-angstrom resolution and give them added international competitive edge.
- (iii) On International Collaboration front, an India-Japan beamline has been established at the Photon Factory, KEK, Tsukuba, Japan.
- (iv) Three Major Centres in nano-electronics have been established at IIT-Bombay, Mumbai, Indian Institute of Science, Bangalore and IIT-Kharagpur, Kharagpur and one more is being established at IIT-Delhi.
- (v) Two Research and Development projects have also been supported in network mode at Centre for Cellular and Molecular Biology, Hyderabad and National Metallurgical Laboratory, Jamshedpur on applications of nanotechnology in Health and Advanced Materials respectively.
- (vi) Twelve Centres of Excellence in Nano Science and 7 Centres of Excellence in Nano Technology have been established by strengthening the research infrastructure in existing academic and research institutions in the country.

(vii) The Mission has also started M.Sc./M.Tech. programmes in Nano Science and Technology in 15 institutions across the country. Large number of Post-Doctoral Fellowships have been sanctioned in the search-cum-selection mode to tap available talent immediately.

(viii) Four Advanced Schools have been held and 4 International Conferences on Nano Science and Technology have also been organized. Joint Industry-Institute linked projects have been funded focusing on definite end-products like nano fillers for tyre applications, functional textiles, nano-sized oxide powders and drug delivery, etc.

(b): The Nano Mission is being supplemented by the Department of Science and Technology office at New Delhi. There is no network of Nano Mission elsewhere in the country.

(c): Already available funds will be sufficient for the remaining period of XI Plan.

(d): The funds allocated for the Nano Mission during the last three years and current year are given below:

Financial Year 2007-08, Rs. 121.27 Crore

Financial Year 2008-09, Rs. 130.00 Crore

Financial Year 2009-10, Rs. 70.00 Crore

Financial Year 2010-11, Rs. 100.00 Crore