

GOVERNMENT OF INDIA
MINISTRY OF SCIENCE AND TECHNOLOGY
DEPARTMENT OF SCIENCE AND TECHNOLOGY
LOK SABHA
UNSTARRED QUESTION No.2693
TO BE ANSWERED ON 06/03//2020

SCIENCE AND TECHNOLOGY INFRASTRUCTURE

2693. SHRI HEMANT TUKARAM GODSE:

Will the Minister of SCIENCE AND TECHNOLOGY विज्ञान और प्रौद्योगिकी मंत्री
be pleased to state:

- (a) whether the Government proposes to strengthen and develop the science and technology infrastructure in major sectors;
- (b) if so, the details thereof;
- (c) whether there is any mechanism to encourage the scientists, technology experts and other specialized institutions in the country and if so, the details thereof;
- (d) whether the Government is providing any assistance to or coordinating with the foreign institutions having the said expertise; and
- (e) if so, the details thereof?

ANSWER

MINISTER OF HEALTH AND FAMILY WELFARE; MINISTER OF SCIENCE AND
TECHNOLOGY; AND MINISTER OF EARTH SCIENCES
(DR. HARSH VARDHAN)

स्वास्थ्य और परिवार कल्याण मंत्री, विज्ञान और प्रौद्योगिकी मंत्री और पृथ्वी विज्ञान मंत्री
डॉ. हर्ष वर्धन .

(a) to (c): Government already has schemes in operation to strengthen and develop science and technology infrastructure of R&D Institutions in major sectors through schemes such as Fund for Improvement of S & T infrastructures in Universities and Higher Educational Institutions (FIST), Promotion of University Research and Scientific Excellence (PURSE), Sophisticated Analytical Instrument Facility (SAIF). The FIST scheme enables University and Academic sectors to perform cutting edge competitive research activities and establish modern teaching facilities. So far, nearly 2915 S&T Departments of Universities/ Institutes, including over 478 PG colleges, have been supported with a total investment of about Rs. 2970 crore. The DST PURSE scheme was initiated with the purpose of creating and fostering research ecosystem among performing universities in the country by enhancing their research capacity through augmentation of their research infrastructure. So far, over Rs. 800 crore have been invested on 50 premier Universities under this Program. The SAIF scheme provides facility of sophisticated analytical instrument to researchers especially from institutions which do not have state-of-the-art instruments to pursue contemporary R&D activities and keep pace with developments taking place globally. Currently, 15 SAIF Centres are operating in the country. These facilities have been utilised by over 19,000 researchers. About 1,10,000 samples have been analysed facilitating over 2000 Publications per year. To build a shared, professionally managed, and strong Science and Technology infrastructure which is readily accessible to academia, start-ups, manufacturing, industry and R&D labs, three *Sophisticated Analytical & Technical Help Institutes (SATHI)* have been set up at a total cost of Rs. 375 crore.

Under Nano Mission, one of the umbrella programmes to promote R&D in this emerging and active area of research, adequate support towards infrastructure development for Nano Science & Technology Research has been provided. The National Spatial Data Infrastructure (NSDI) initiative involves works with various

Central and State Government Agencies for setting up infrastructure with objectives of facilitating access, search and discovery of spatial data acquired by various agencies. Under Clean Energy Research Initiative (CERI), Government is establishing R&D centres in areas such as Smart Grids, Clean Coal, Solar Energy, Energy Storage and Water Technology to strengthen and develop science and technology infrastructure. Department of Biotechnology (DBT) through its Research Resource Service Facility Programme (RRSFP), which has now been categorised as DBT- Boost to University Interdisciplinary Life Science Departments for Education and Research Programme (DBT-BUILDER) and DBT- Scientific Infrastructure Access for Harnessing Academia University Research Joint Collaboration (SAHAJ), promotes establishment and upgradation of biotech facilities/infrastructure. The constituent laboratories of Council of Scientific and Industrial Research (CSIR) have state-of-art infrastructure with latest equipment to enable scientists to undertake cutting edge R&D in diverse areas. Ministry of Human Resources and Development (MHRD) has established seven Indian Institute of Science Education & Research (IISERs) and have also been continuously supporting the Indian Institute of Science (IISc), Bangalore. MHRD has supported these Institutes towards providing and maintaining world class infrastructure in science and technology to promote both higher learning as well as advanced research in frontier areas of S&T using cutting edge technologies.

(d) & (e): Government is co-ordinating with foreign institutions by establishing bilateral and multilateral programmes in areas such as Smart Grids, Offgrids, Clean Energy Materials, Renewable and Clean Hydrogen and also in Water Technologies under the aegis of Mission Innovation, which is a global platform of 25 countries to accelerate innovations in these domains. Open Geospatial Consortium (OGC) – a not-for-profit body of 550 Industries, Governments, Academia, and Non-Governmental Organisations is developing Open Standards useful in establishment of NSDI for interoperable sharing of spatial data sets amongst the stakeholders. The Mega Science Program is aimed to create Mega Science facilities and launch Mega Science projects within and outside the country to improve access to state-of-the-art facilities for Indian scientific community, especially from the academic sector. Under engagement with the Global S&T Platforms, DST also contributed to Worldwide Development of Research Infrastructures and participated in the 11th meeting of Group of Senior on the development on Global Research Infrastructures (GSOGRI), hosted by National Science Foundation, USA. It was decided to include ‘Laser Interferometric Gravitational Wave Observatory (LIGO) having a node in India, as a future case study of Global Research Infrastructures. Inter-governmental Agreement on Cooperation in the field of Science, Technology and Innovation were signed with several countries. The DST and National Technological Innovation Authority of Israel have jointly established a US\$ 40m “India-Israel Industrial R&D and Technological Innovation Fund (I4 Fund)” for a period of five years to support joint R&D projects. Establishment of Indo-Korean Center for Research and Innovation (IKCRI) and Indo-Mexico Centre in areas of energy, water, food security and air quality was agreed to from respective countries. Under Mission Innovation programme, meetings were held with Swedish Minister for Innovation and Enterprise, Governor of Skåne, Director of Brazilian Innovation Agency (FINEP), Minister for Science and ICT of the Republic of Korea, Deputy Prime Minister of Uzbekistan, Mexico’s Ambassador to India to identify potential areas of interest in domains covering clean transport, clean energy, smart grids, smart industry & advanced manufacturing, medical sciences, circular and bio-based economy. Initiatives undertaken by the DBT included acquisition and maintenance of synchrotron X-ray beamline (BM14) in partnership with Medical Research Council (MRC), the European Molecular Biology Laboratory (EMBL) and the European Synchrotron Radiation Facility (ESRF). Other major efforts in this direction have been implemented through the Indo-US Vaccine Action Programme (VAP), a bilateral programme jointly implemented by DBT and National Institute of Allergy and Infectious Diseases (NIAID) of the National Institute of Health (NIH). The programme supports indigenous candidate vaccine development for important infectious diseases. An Indo-US Candidate Vaccine Advisory Committee (CVAC) has been established to provide oversight to research and development (R&D) activities for advancing vaccine candidates approaching readiness for clinical trials such as dengue, tuberculosis and chikungunya. Further, a key initiative being implemented under this bilateral programme is the Regional Prospective Observational Research for Tuberculosis (RePORT) Initiative for strengthening tuberculosis research capacity and infrastructure, with involvement of Indian institutions and partnering US universities/ institutions.
