GOVERNMENT OF INDIA
MINISTRY OF SCIENCE AND TECHNOLOGY
DEPARTMENT OF SCIENCE AND TECHNOLOGY
LOK SABHA
STARRED QUESTION NO.291
TO BE ANSWERED ON 12/7/2019

USE OF SCIENCE AND TECHNOLOGY

†*291. SHRI ASHOK MAHADEORAO NETE:

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

(a) the details of the areas/sectors identified by the Government for wider use of science and technology for the development of the country;

(b) whether the Government has provided a special package to some sectors for development of science and technology; and

(c) if so, the details thereof, State/UTwise?

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): A statement is laid on the Table of the House.

STATEMENT AS REFERRED IN REPLY TO PARTS (a) TO (c) OF LOK SABHA STARRED QUESTION NO.291 ON 12/7/2019 REGARDING USE OF SCIENCE AND TECHNOLOGY

(a) The Science and Technology (S&T) are key drivers to development, because technological and scientific revolutions underpin economic advances, improvements in health systems, education, infrastructure, etc. The technological revolutions of the 21st century are emerging from entirely new sectors, based on bio-technology, nano-technology, interdisciplinary cyber-physical system, and information and communication Technology.

The Government has identified several areas/ sectors for wider use of science and technology for the development of the country. In 'Technology Vision 2035' document, which was unveiled during 103rd Indian Science Congress on 3rd January 2016, 12 sectors were identified. These include; (i) Education, (ii) Medical Sciences & Healthcare (iii) Food and Agriculture (iv) Water (v) Energy (vi) Environment (vii) Habitat (viii) Transportation, (ix) Infrastructure, (x) Manufacturing (xi) Materials and (xii) Information and Communication Technology.

As per the recommendations of the Prime Minister's Science, Technology and Innovation Advisory Council (PM-STIAC), nine S&T missions have been taken up for implementation by the relevant Ministries / Departments. These include (1) Natural Language Translation (2) Electric Vehicles (3) Artificial Intelligence (4) National Biodiversity Mission (5) Quantum Frontier (6) BioScience for human Health (7) Waste to Wealth (8) Deep Ocean Exploration, and (9) Accelerating Growth of New India's Innovations

The Union Cabinet has recently approved the launching of National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS) at a total outlay of Rs. 3660 crore for a period of five years. The NM-ICPS which is a Pan India Mission and covers entire gamut of India that includes Central Ministries, State Governments, Industry and Academia, is being implemented by the Department of Science & Technology. The Cyber Physical Systems and its associated technologies, like Artificial Intelligence (Al), Internet of Things (loT), Machine Learning (ML), Deep Learning (DP), Big Data Analytics, Robotics, Quantum Computing, Quantum Communication, Quantum encryption, Data Science & Predictive analytics, Cyber Security for physical infrastructure and other infrastructure, have pervaded and is playing a transformative role in almost every field of human endeavour in all most in all sectors. It has become imperative for government and industries to be prepared to adopt these emerging and disruptive technologies in order to remain competitive, drive societal progress, generate employment, foster economic growth and to improve the overall quality of life and sustainability of the environment. The Mission would act as an engine of growth that would benefit national initiatives in health, education, energy, environment, agriculture, strategic cum security, and industrial sectors, Industry 4.0, SMART Cities, Sustainable Development Goals (SDGs) etc. The Mission is expected to enhance job opportunities by imparting advanced skills and generating skilled manpower as per the requirement of the industry/ society.

Apart from the above, the Government has identified some of the thrust areas such as Smart Grids, Off-grids, Building Energy Efficiency, clean fuel and energy, Clean Coal Technologies, etc. A number of water technology initiatives have been initiated for providing safe drinking water at affordable cost. A number of new schemes have been launched including Advanced Manufacturing Technologies (AMT), Waste Management Technologies (WMT), Bio-Medical Devices and Technology Development (BDTD), Science and Heritage Research Initiative etc. The Government is promoting innovations and start-up activities in a big way. An initiative 'National Initiative for Developing and Harnessing Innovations (NIDHI)' which is an umbrella program covering all the links in the innovation chain from scouting to mentoring to prototyping to fellowship to seed support to industry connect to new incubators has been launched.

The Department of Biotechnology (DBT) has initiated several region-specific programs for holistic biotech based development. The major areas identified by biotech based development include (i) Human Resource Development (ii) Agriculture & Animal Sciences (iii) Medical Biotechnology (iv) Energy, Environment & Bioresource based Applications (v) Knowledge Generation, Discovery Research, New Tools & Technologies. In order to enhance and improve crop productivity, district-level Agro-advisory services for farmers have been implemented. Some major successes have been achieved in the area of health, hygiene and sanitation to fulfill the dream of Swasth Bharat.

Similarly, the Council of Scientific and Industrial Research (CSIR) has identified (i) Aerospace, Electronics, and Instrumentation & Strategic Sectors; (ii) Civil Infrastructure & Engineering; (iii) Ecology, Environment, Earth & Ocean Sciences and Water (iv) Mining, Minerals, Metals and Materials; (v) Chemicals (including leather) and Petrochemicals; (vi) Energy (conventional and non-conventional) and Energy devices; (vii) Agri, Nutrition & Biotech; and Healthcare areas/sectors for wider use of science and technology for the development of the country:

(b) No, Sir. The Government has not provided special package to any sector for the development of science and technology.

(c) Does not arise.

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