

**GOVERNMENT OF INDIA
HUMAN RESOURCE DEVELOPMENT
LOK SABHA**

STARRED QUESTION NO:29
ANSWERED ON:23.02.2011
R& D IN HIGHER EDUCATION
Hooda Shri Deepender Singh

Will the Minister of HUMAN RESOURCE DEVELOPMENT be pleased to state:

- (a) the details of the schemes run by the Government to promote Research and Development (R&D) in higher education and the thrust areas identified for this purpose;
- (b) the details of the funds provided and the expenditure incurred on R&D in higher education during the last three years and the current year;
- (c) the extent of achievements made so far; and
- (d) the roadmap envisaged for further development in this regard?

Answer

MINISTER OF HUMAN RESOURCE DEVELOPMENT (SHRI KAPIL SIBAL)

(a) to (d): A Statement is laid on the Table of the House.

STATEMENT REFERRED TO IN REPLY TO PARTS (a) TO (d) OF LOK SABHA STARRED QUESTION NO. 29 FOR 23.02.2011, ASKED BY SHRI DEEPENDER SINGH HOODA, HON'BLE MEMBER OF PARLIAMENT, REGARDING R&D IN HIGHER EDUCATION.

(a): University Grants Commission (UGC) and the Ministry of Science and Technology implement various schemes in higher education for promoting and strengthening Research and Development in Universities and colleges. Details are in Annexure I and II respectively. In addition, the Indian Council for Agricultural Research (ICAR) and Indian Council for Medical Research (ICMR) also implement schemes towards this purpose. Details are in Annexure III.

The thrust area identified for purposes of the above mentioned schemes of Ministry of S&T, ICAR, ICMR and UGC include Plasma Physics, Nuclear Physics, Structural Biology, Neurosciences, Organic Synthesis, Robotics, Nano-technology, Agriculture Bio-Technology covering areas of Crop Sciences, Development of Bio-fertilizers and Bio-pesticides, Animal Biotechnology, Aquaculture & Marine Biotechnology, development of improved varieties/breeds, reproductive health and communicable diseases, Bio-resource development & utilization including Medicinal and Aromatic plants & Seri Biotechnology, Basic Research in emerging areas, Nano-Biotechnology, Medical Biotechnology, Vaccine Research & Development, Human Genetics & Genomics, Stem Cell Research, Bio-processing and Scale-up Biotechnology & Bio-safety Research.

(b): UGC has reported that it has allocated and spent Rs.1972.63 crores on research and development in the last three years. Department of Science and Technology (DST) has reported that it has allocated and spent Rs. 1383.91 crores on research and development in the last three years. Similarly Department of Bio Technology (DBT) has reported that it has allocated and spent Rs. 908.80 crores on research and development in the last three years. For the current year, UGC, DST and DBT have spent Rs. 631.02 crores, Rs. 494.59 crores and Rs.306.08 crores on research and development respectively.

(c): Department of Science and Technology has reported that Science and Engineering Research Council (SERC) has emerged as a national model for a transparent and rigorous peer review mechanism. SERC support lead to about 1200 papers annually with an average per paper impact factor rating of 2.2. Contribution of Universities in research papers has gone up from 15% to 35%. Similarly, field of Bio- technology has ensured development and transfer of more than 50 technologies for product development and commercial production. Tissue Culture propagation techniques for several plant varieties have been developed and demonstrated on a large scale. In health care area also, several advancements have been made. Vaccine for leprosy has been developed. Several other vaccines are at various stages of development. Diagnostic Kits have been developed for several diseases. In the field of agriculture and allied sciences, patents were granted to ICAR in 8 fields of invention. The ICAR institutes have also secured 4 Trademarks and registered 6 copyrights.

(d): The Department of Biotechnology has reported that it has formulated a three pronged strategy for future to promote research and development in Bio-technology:

(i) To promote Basic Research in emerging areas such as Genomics, RNA biology, Proteomics, Metabolomics, Computational biology etc.

(ii) To intensify Translation Research for development of affordable product and process related to Agriculture productivity.

(iii) To launch innovative schemes for increasing academia-industry interaction.

The DST has reported that Science and Engineering Board (SERB) has been created through an Act of Parliament. The main mandate of this Board will be to support basic research in emerging areas of Science and Engineering. The SERB will enable quicker decisions on research issues, thereby greatly improving our responsiveness to the needs of research scientists and S&T system. The future road map of the DST includes giving special attention to needs of the North Eastern Region (NER) and Jammu& Kashmir state by means of special package to promote research in the institutions located in these states.

UGC has reported that main area of focus in the Universities and colleges would be to promote basic scientific research. The recommendations of M.M. Sharma Committee on Basic Scientific research will be implemented fully. An allocation of Rs.1200 crore has been made in the Eleventh Five Year Plan for strengthening Basic Scientific Research in institutions of higher learning including support for infrastructure development for implementation of recommendations of the Task Force constituted under the chairmanship of Prof. M.M. Sharma. The schemes of Universities with potential for Excellence and Colleges with Potential for Excellence (CPE) will be further improved and promoted. The scheme of Assistance for Strengthening of Infrastructure for Science and Technology (ASIST) will also be expanded for creating S&T infrastructure in higher education.

ICAR has reported that in order to meet the emerging challenges in the field of agriculture and allied sectors, it will focus on human resource development to generate appropriate location specific technologies. It proposes to further improve upon the inter-institutional knowledge support in order to leverage R&D for alleviation of hunger, poverty and livelihood security.