Government is implementing several schemes to encourage students/youth of the country towards the field of science and technology: Dr. Harsh Vardhan

**Several steps being taken to promote affordable sustainable innovations in the
field of science and technology**

It has been a part of Government’s Science and Technology (S&T) policy to encourage the students/youth of the country towards the field of science and technology.

The first three key elements of Science, Technology, and Innovation (STI) Policy of 2013

Are:

* Promoting the spread of scientific temper amongst all sections of society.
* Enhancing skill for applications of science among the young from all social strata.
* Making careers in science, research and innovation attractive enough for talented and bright minds.

Government is implementing several schemes to encourage students/youth of the country towards the field of science and technology. The “Innovation in Science Pursuit for Inspired Research (INSPIRE)” is a major scheme in operation to attract, motivate, nurture and train talented and meritorious students to study science subjects and opt for careers in Research and Development (R&D) to build a pipeline of quality manpower, thereby widening the R&D manpower base of the country. Close to 42,000 young students of class 6th - 10th receive the INSPIRE Award MANAK (Million Minds Augmenting National Aspiration and Knowledge)per year from all recognized schools across the country. About 20,000 students/year attend INSPIRE Internship Camps to experience the joys of creative pursuit of science. About 10,000students in top 1% of Class 12th Board examinations receive Scholarships For Higher Education (SHE) every year to pursue B.Sc and M.Sc courses in Basic and Natural Sciences. Every year, about 1,000 students are availing INSPIRE Fellowships for pursuing Ph.D. degree. 100 young researchers/year are availing INSPIRE Faculty Fellowships to establish themselves as independent post-doctoral researchers. In order to attract and motivate young students, several international programmes are also being implemented by the Department of Science and Technology (DST) such as Lindau meeting with Nobel Laureates, Asian Science Camps, Raman Charpak Fellowships, Sakura Exchange programme,etc.

Autonomous institutions in the DST family also train large number of summer research interns, Ph.D. and post-doctoral fellows, organize large number of important national/international conferences, outreach programmes for school and college students

including lectures by their scientists, orientation programmes etc.

The Science and Engineering Research Board (SERB), a statutory body of DST supports

young researchers in a big way, through early career grants, core research grants, doctora land postdoctoral fellowships etc. Some of the notable programmes targeted at young scientists include: National Postdoctoral Fellowship (N-PDF), Start-up Research Grant (SRG), the Prime Minister’s Fellowship for Doctoral Research, Swarnajayanti Fellowships etc.

These schemes are designed to identify promising young researchers and provide them

with training and research opportunities in frontier areas of science and engineering. Close to250 young researchers receive National Postdoctoral Fellowships annually. Majority of the500 scientists supported under the Start-up Research Grant have been budding young researchers who take up high-end R&D in the country. There are 100 slots of fellowships available annually to researchers to pursue Ph.D.in partnership with Industry under the PM Fellowship for Doctoral Research.

The Council of Scientific and Industrial Research (CSIR) has been providing doctoral and postdoctoral fellowships to young and budding researchers through its various fellowship programmes such as Junior Research Fellowship –National Eligibility Test (JRFNET), Shyama Prasad Mukherjee Fellowship (SPMF), Senior Research Fellowship (SRF Direct),Research Associate ships and CSIR-Nehru Science Postdoctoral Research

Fellowship (CSIR-NSPDF). Annually, CSIR offers about 4500-5000 such fellowships to young students who are going to be future scientists. At any given time, CSIR supports about about8000-9000 young researchers in their pursuit for doctoral and postdoctoral research in the field of science and technology.

The Department of Biotechnology (DBT) has implemented integrated Human Resource Development Programme in Biotechnology including Star College Scheme for strengthening of Undergraduate Science Education, Postgraduate Teaching Programme,

DBT-Junior Research Fellowship Programme, DBT-Research Associateship and DBT Biotechnology Industry Training (Apprenticeship) Programme in areas of Biotechnology and Life Sciences.

Government has taken several steps to promote affordable sustainable innovations in the

field of science and technology. DST initiated a new program in 2016 called Promoting and Accelerating Young and Aspiring technology entrepreneurs (PRAYAS) under National Initiative for Developing and Harnessing Innovations (NIDHI) with the objective to support conversion of an innovative idea into a working prototype developed by any innovator. This programmeis aimed to attract large number of young innovators who demonstrate problem-solving zealand abilities and also to enhance the pipeline in terms of quality and number of innovative startups to the incubators. This will build a vibrant innovation ecosystem, by establishing a network of innovators, academia, mentors and incubators.

For promoting affordable sustainable innovation in the field of science and technology, the National Innovation Foundation (NIF), an autonomous institution under DST organizes a biennial National Grassroots Innovation and Outstanding Traditional Knowledge Awards and for it, common people (including youth) share their ideas and innovations. NIF provides value-addition and incubation support to the innovators so that their technologies can reach the market. NIF has also set up NIF Incubation and Entrepreneurship Council (NIFientreC), a Technology Business Incubator, for setting up and incubating commercial ventures based on innovative technologies of common people of the country.

CSIR is implementing R&D as well as translational projects in various categories, namely, Focused Basic Research, Niche Creating Projects, Fast Track Translational Projects, Fast Track Commercialization Projects, HARIT Projects and Mission Projects for the purpose.

DBT is supporting affordable Healthcare R&D towards understanding the cause ofhuman diseases at genetic and molecular level that enable the development of innovative the rapies or preventive measures and early detection in areas like infectious diseases, chronic diseases, human genetics and genome analysis, maternal and child health, public

health and nutrition, vaccine research, bioengineering and bio design, stem cells and regenerative medicine. DBT is also supporting translational research for application development under Accelerated Translational Grant for Commercialization (ATGC) program. ATGC enables academic researchers to take their laboratory research leads with established proof-of-concept to the next phase.

This information was given by Minister of Science & Technology, Earth Sciences and Health & Family Welfare, Dr. Harsh Vardhan in a written reply to a question in the Rajya Sabha today.

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