

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

UNSTARRED QUESTION NO:2808
ANSWERED ON:30.07.2014
INNOVATION CAPABILITIES
Kateel Shri Nalin Kumar;Simha Shri Prathap

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

- (a) whether the Government has set up an institutional framework for encouraging innovations in the field of science & technology;
- (b) if so, the details thereof;
- (c) the achievements made so far by the Government in validating innovations and converting these into value added technologies/products; and
- (d) the details of collaborations, if any, public/private/foreign organisations in such efforts?

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; AND MINISTER OF STATE IN THE MINISTRY OF PERSONNEL, PUBLIC GRIEVANCES AND PENSIONS; (DR. JITENDRA SINGH)

(a) & (b): Yes Madam, the Government has set up an institutional framework for encouraging innovations in the field of science & technology. The National Innovation Foundation (NIF) has been setup by Department of Science and Technology (DST) as an Aided Institute to support grassroots innovations and outstanding traditional knowledge. The NIF helps grassroots innovators to develop technologies by providing the risk capital, helping in development and documentation, value addition, Intellectual Property Rights (IPR) protection, business development, commercialization and social diffusion. The institutions under DST, International Advanced Research Centre for Powder Metallurgy and New Materials (ARCI), Sree Chitra Tirunal Institute for Medical Sciences and Technology (SCTIMST), Agharkar Research Institute (ARI) are involved in development and promotion of innovations at grass root levels as well as at industrial level. The Technology Development Board set up by the Government provides financial assistance in the form of equity, loan or grants to industrial concerns for commercialisation of indigenous technologies and innovations. DST is promoting establishment of 'Innovation and Entrepreneurship Development Centre (IEDC)' and 'Technology Business Incubator' (TBI) for fostering innovation, entrepreneurship and knowledge based start-ups. Council of Scientific and Industrial Research (CSIR) is catalyzing innovative research through its 'New Millennium Indian Technology Leadership Initiative (NMITLI)' programme. The Department of Biotechnology (DBT) has set up a not-for-profit public sector company 'Biotechnology Industry Research Assistance Council (BIRAC)' for promoting and nurturing industry and innovation research in the field of Biotechnology. To promote innovations in agriculture sector, a network of 22 Business Planning and Development units under National Agricultural Innovation Project (NAIP) along with agri-incubation facility have been established across the country. The Defence Research and Development Organisation (DRDO) has set up Directorate of Extramural Research & Intellectual Property Rights along with four distinct research boards for encouraging innovation in the field of Science & Technology. The Department of Space has formed an Office of Innovation Management to provide impetus to the process of innovation and encourage innovations in field of Space Science and Technology.

(c) A large number of innovations, technologies, products and new Intellectual Property (IP) have been generated through the various schemes of the Government. Various programs of the Government support innovations by accessing viability and feasibility of innovation. NIF has been able to commercialize products across countries in six continents apart from being successful in materializing 70 technology licensing to 80 licensees with the help of partner agencies. The ARCI has transferred about 30 technologies to various industries in both public and private sector. Through BIRAC initiatives, 15 new technologies, 26 new IPs and 10 products have been generated. The Business Planning and Development units under NAIP have commercialized 331 agro-technologies during last 4 years. Technology Development Board (TDB) has supported more than 400 projects/innovations through soft loans, Seed funding and venture capital funds. India Innovation Fund, supported by Department of Science & Technology in Public Private Partnership mode has supported 7 innovative IP based technologies for commercialization. Through Department of Space, 304 Technology transfer agreements have been executed with Indian Industries.

Some of the examples of the technologies commercialized through various schemes of the Government are: Water purification systems using nanotechnology, Silver nanoparticle based antimicrobial finish, protocol for enhancing self-life of Krishnagiri mangoes from 7 days to 35 days, Holographic pulsed portrait camera system, affordable augmentative and alternative communication device for children with Cerebral Palsy, heating & cooling apparel, eco-friendly printing ink, adhesives and sealants for wide variety of applications, etc.

(d) The Government has collaborated with various organizations for scouting and scaling innovations and innovative technologies. Technology Development Board has collaborated with Confederation of Indian Industry (CII) to create 'Global Innovation and Technology Alliance' (GITA) for IP acquisition, scouting of technology across the globe. TDB has also promoted 'Millennium Alliance (MA)' programme in collaboration with FICCI and USAID to leverage Indian creativity, expertise and resources to identify and scale innovative solutions for the benefit of the base of pyramid populations across India and the World.

The Department of Science & Technology has established 'United States – India Science and Technology Endowment Fund (USISTEF)' through Inter-governmental agreement with United States of America for promotion of joint activities that would lead to innovation and techno-entrepreneurship through application of Science & Technology. The India Innovation Growth Programme a joint initiative of DST and Lockheed Martin Corporation with knowledge support from Stanford Graduate School of Business and the IC2 Institute at the University of Texas aims to accelerate commercialization of innovative Indian technologies into the global markets. Initiative for Research Innovation in Science (IRIS) in collaboration with CII and Intel and India Innovation Initiative (i3) in collaboration with CII and Agilent Technologies are programs nurturing spirit of innovation among students.