

**GOVERNMENT OF INDIA  
MINISTRY OF SCIENCE AND TECHNOLOGY  
DEPARTMENT OF SCIENCE AND TECHNOLOGY  
LOK SABHA  
UNSTARRED QUESTION NO.1767  
TO BE ANSWERED ON 13/2/2019**

**INNOVATION IN SCIENCE AND TECHNOLOGY**

1767. **SHRI GAJANAN KIRTIKAR:  
SHRI S.R. VIJAYAKUMAR:  
SHRI T. RADHAKRISHNAN:  
SHRI S. RAJENDRAN:  
KUNWAR HARIBANSH SINGH:  
SHRI ASHOK SHANKARRAO CHAVAN:  
SHRI SUDHEER GUPTA:**

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

- (a) the details of the number of innovations recorded during the last five years, year and field-wise;
- (b) whether the Government has created any structure/organization to nurture innovations at the grassroots level and if so, the details thereof;
- (c) whether the National Innovation Foundation has recorded a large number of innovations at the grassroots level, touching the lives of the poor in the rural sector and if so, the details thereof;
- (d) whether the National Research Development Corporation is acting as a window for such innovations including the processes patented by laboratories under the Council of Scientific and Industrial Research (CSIR) and if so, the details thereof; and
- (e) the steps being taken/proposed to be taken by the Union Government to scale up innovations in the field of Science and Technology in the country?

**ANSWER**

**MINISTER OF SCIENCE AND TECHNOLOGY, MINISTER OF EARTH SCIENCES AND MINISTER OF ENVIRONMENT, FOREST AND CLIMATE CHANGE  
(DR. HARSH VARDHAN)**

विज्ञान और प्रौद्योगिकी मंत्री, पृथ्वी विज्ञान मंत्री और पर्यावरण, वन एवं जलवायु परिवर्तन मंत्री

(डा. हर्ष वर्धन)

- (a) National Innovation Foundation – India (NIF), an autonomous body of the Department of Science and Technology, Government of India, during the last five years and the current year, recorded over 1,90,000 ideas, innovations and traditional knowledge instances from all parts of the country though all were not unique or novel.

The field-wise information is as follows –

Title of the field	No. of ideas, innovations and traditional knowledge instances
General Utilities	69434
Energy	21195
Transport	16478
Electronics & Communication	24690
Agriculture Engineering	6628
Environment	24717
Human Health & Nutraceutical	18200
Veterinary Science	7200
Agriculture (Plant variety, protection & farm practices)	1490
	190032

National Research Development Corporation (NRDC) was established by the Government of India, with the primary objective to promote, develop and commercialise the technologies, know-how, inventions, patents, processes

emanating from various national R&D institutions, Universities and is presently working under the administrative control of the Department of Scientific & Industrial Research. NRDC gets the technologies assigned for licensing from various R&D institutes. During the last 5 years a total of 345 technologies were assigned to NRDC.

(b) Yes Madam. The Department of Science and Technology (DST), Government of India has set up National Innovation Foundation (NIF) – India which is working towards nurturing innovations at the grassroots level.

NIF scouts, supports and spawns' grassroots innovations developed by individuals and local communities in any technological field helping in human survival, without any help from formal sector. The grassroots innovators are provided end to end support including in-situ incubation in terms of Value addition to Technology, Mentoring, Intellectual Property Rights Protection and Financial support. It also works towards such innovations diffusing through commercial and/or non-commercial channels, generating material or non-material incentives for innovators and others involved in the value chain.

(c) Yes Madam. NIF has recorded a large number of innovations at the grassroots level touching the lives of the poor in the rural sector. NIF has pooled a database of over 310,000 technological ideas, innovations and traditional knowledge practices (not all unique and distinct) from over 608 districts of the country. In collaboration with various research & development (R&D) and academic institutions, agricultural & veterinary universities and others institutions, NIF has helped in getting several hundred grassroots innovation based technologies validated and / or value added.

Amongst these recorded innovations, in the name of innovators and outstanding traditional knowledge holders, NIF has filed over 1040 patents (including 215 related to Agriculture - Tools, Machines, Herbal formulations), including eight filed in the USA and 28 Patent Cooperation Treaty (PCT) applications. Of these, 72 patents have been granted in India (including 28 related to Agriculture) and 5 in the USA. In the same time period NIF has filed 21 Design registrations for innovations of the grassroots and student innovators. In addition to this 10 trade mark applications have also been filed.

(d) NRDC is mandated to commercialise the technologies developed by all the research laboratories and institutes of CSIR and other public funded research institutes. Accordingly, the Corporation has, since inception, been transferring technologies to Industry, developed by CSIR Labs. In order to further strengthen the relationship with CSIR and modify certain terms and conditions, the Corporation entered into an agreement (renewed) with CSIR in June 2017 for commercialisation of the technologies / patented processes developed by CSIR Labs.

The Corporation provides value addition and wide publicity to the technologies developed so that they can be taken to the industry at the earliest. The Corporation acts as a single window for commercialising and transferring CSIR processes to any entrepreneur or industry interested in taking-up the commercialisation of such technologies.

Some of the major technologies developed by CSIR and Licensed by NRDC are: Anti-Arthritis Herbal formulation, Cigarette filter (CSIR Patent), 20 & 10 HP Tractor, Indelible Ink, Solekshaw, Zeolite-A, FRC Manhole Cover, Mini Cement Plant, Ferrocement Tanks, Infant Baby Food, Glucose Biosensor, Monocrotophos, Leather Processing Chemicals, Menthol from Mint Oil, Chlorine Tablets, Re-refining of used Engine Oil, Solar Tree etc.

The number of technologies licensed by NRDC to various entrepreneurs over the last five years is as follows:

	2013-14	2014-15	2015-16	2016-17	2017-18
Technologies /Innovations Licensed	19	40	21	36	34

(e) Department of Science & Technology, in 2016-17, launched 'National Initiative for Developing and Harnessing Innovations' (NIDHI) for nurturing knowledge-based and technology-driven ideas and innovations into successful startups. The programme is in-line with the national priorities and goals and its focus is to build an Innovation, Science and Technology driven entrepreneurial ecosystem. NIDHI aims to nurture innovative ideas through scouting, supporting and scaling them up for creation of start-ups and successful ventures.

Through NIF, support to innovators is extended in different areas like prototyping, value addition, diffusion and business development so that the benefits of these can be leveraged upon by the society at large.

The INSPIRE Award - MANAK (Million Minds Augmenting National Aspiration and Knowledge) is being executed by Department of Science & Technology and National Innovation Foundation-India to align it with the action plan for "Start-up India" initiative. The scheme aims to help build a critical human resource pool for strengthening & expanding science and technology system and increase the research & development base by inviting students from all government and private schools, throughout the country to share their original & creative technological ideas/innovation.

NRDC is managing a program 'Promotion & Propagation of Inventions and Innovations (PIII)' for supporting and scaling up innovations in the field of Science & Technology in the country. Major activities undertaken are awarding innovations, setting up of Innovation Facilitation Centres, Seed funding innovations and setting up of Incubation Centres.

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