

**GOVERNMENT OF INDIA
MINISTRY OF SCIENCE AND TECHNOLOGY
DEPARTMENT OF SCIENCE AND TECHNOLOGY
LOK SABHA
UNSTARRED QUESTION NO.4348
TO BE ANSWERED ON 21/3/2018**

QUALITY RESEARCH BY SCIENTIST

**4348. SHRI RAHUL SHEWALE:
SHRI BHARTRUHARI MAHTAB:
SHRI SANJAY DHOTRE:**

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

- (a) the schemes/programmes being implemented by the Government to curb attrition rate of scientists and to encourage them to do quality research in the country;**
- (b) the extent to which the said schemes/programmes have achieved the desired results in the country during each of the last three years and the current year, State/UT-wise;**
- (c) the funds provided by the Government under the said schemes/ programmes during each of the last three years and the current year, scheme/ programme-wise;**
- (d) the number of complaints of irregularities in implementation of the said schemes/programmes that have come to the notice of the Government during the said period, scheme/programme-wise along with the action taken thereon;**
- (e) the number of scientists who left their job across the country during the said period, State/UT-wise; and**
- (f) the steps taken/being taken by the Government for welfare of the scientists and to retain them 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) Government has taken several measures to curb attrition of scientists and to encourage them to do quality research in the country. The extramural funding schemes of Department of Science and Technology (DST) and Department of Biotechnology (DBT) and Fellowship schemes of DST, DBT and Council Scientific and Industrial Research (CSIR) have been designed to encourage individual scientists to do quality research. Schemes / Programmes such as Fund for improvement of S&T infrastructures in universities and higher educational institutions (FIST) to build research infrastructure for enhancing research capabilities, Core Research Grant, Start-Up Grant for Young Scientists in the form of Early Career Research Award and National Postdoctoral Fellowship, Research fellowships such as JC Bose and Swarnajayanti are targeted at practicing scientists to strengthen R&D in various sectors.

(b) The said schemes are aimed to elevate R&D status of the country and have achieved the desired results in a major way. The outcome of these schemes are multipronged and have multiplying effects influencing the quality of manpower, research excellence of institutions and over all development of the country. Though it is difficult to indicate year-wise desired results to the extent to which the said schemes/programmes have achieved, the achievements can be tracked through certain S&T indicators. India's position globally in scientific publications, as per Scopus database, has moved to 6th with a growth

rate of 13.9% as against the world average of 4.4% during 2009-2013. In the field of nanoscience and technology, India is at 3rd position. India's output of papers in Chemistry is third behind United States of America and China. A report of Springer Nature has indicated that India is ascending towards world-class science and our country is at 13th position globally on an index of world-class scientific journals. As per the WIPO report 2016, India is ranked at 10th position in terms of resident patent filing activity. CSIR is recognized to be among the international leaders in knowledge creation and it is ranked 12th in the world amongst the government institutions.

(c) The details of funds provided by the Ministry of Science and Technology under the said schemes/programmes during each of the last three years and the current year, scheme/ programme-wise are given below:

SN	Schemes/ Programmes	Allocation of funds (In Crores)			
		2014-15 (Actuals)	2015-16 (Actuals)	2016-17 (Actuals)	2017-18 (BE)
I	DEPARTMENT OF SCIENCE AND TECHNOLOGY (DST)				
(1)	(2)	(3)	(4)	(5)	(6)
1	Basic And Applied Research (R&D Support)	259.54	328.39	352.81	388
2	Autonomous Institutions And Professional Bodies	701	887.66	1097.28	1166
3	International Cooperation	78.68	84.33	104.65	166.54
4	Technology Development Programme	130.59	130.17	193.61	235
5	Synergy Projects	23.23	24.86	26	--
6	National Mission On Nanoscience And Nanotechnology	64.29	83.6	123.64	136
7	Science And Engineering Board	535	660	767	800
8	Mega Facilities For Basic Research	61.93	68.91	79.86	130
9	Disha Programme For Women In Science	43.85	55.89	60.63	75
10	Supercomputing Facility And Capacity Building	--	81.88	90	125
11	Swarna Jayanti Scholarship	11.99	14.74	14.99	15
12	INSPIRE	266	405.9	419.5	480
II	DEPARTMENT OF BIO-TECHNOLOGY (DBT)				
1	Biotechnology Research and Development, Human Resource Development, Research Resource and facilities	789.77	903.33	1020.04	1252.42
III	COUNCIL OF SCIENTIFIC AND INDUSTRIAL RESEARCH (CSIR)				
1	National Human S&T Resource Development Programme	296	303	300	225

(d) No complaints of irregularities in implementation of the said schemes/programmes have come to the notice of the Government during the said period.

(e) & (f): Except isolated cases of scientists leaving their jobs for personal reasons, no significant attrition has been reported. The Flexible Complementing Scheme / Merit based promotion scheme positioned in scientific departments and the implementation of the VII Pay Commission pay scale and introduction of Performance Related Incentive Scheme (PRIS) in strategic Departments have attracted scientists to remain in the country and hence the Institutions are not experiencing any brain drain. In addition to incentivization schemes like sharing of proceeds with scientists from contractual R&D; and consultancy and premia & royalty received from the transfer of technology, the Government has several welfare programmes like housing schemes, health schemes, leave travel concession, special schemes for women etc. to Central Government employees including scientists.
