



# 16

## PARLIAMENT OF INDIA LOK SABHA

COMMITTEE ON EMPOWERMENT OF WOMEN

(2018-2019)

(SIXTEENTH LOK SABHA)

SIXTEENTH REPORT

**'HIGHER EDUCATION AND RESEARCH & DEVELOPMENT :  
PROSPECTS FOR WOMEN'**



सत्यमेव जयते

LOK SABHA SECRETARIAT  
NEW DELHI

*February 2019/ Magha, 1940 (Saka)*

**FOURTEENTH REPORT**

**COMMITTEE ON EMPOWERMENT OF WOMEN  
(2018-2019)**

**(SIXTEENTH LOK SABHA)**

**'HIGHER EDUCATION AND RESEARCH & DEVELOPMENT:  
PROSPECTS FOR WOMEN'**

*Presented to Lok Sabha on 13.02.2019*

*Laid in Rajya Sabha on 13.02.2019*



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**LOK SABHA SECRETARIAT  
NEW DELHI**  
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## **COMPOSITION OF THE COMMITTEE ON EMPOWERMENT OF WOMEN**

**(2016-2017)**

**Shrimati Bijoya Chakravarty - Chairperson**

### **Members**

#### **Lok Sabha**

2. Shrimati Anju Bala
3. Shrimati Renuka Butta
4. Km. Sushmita Dev
5. Shrimati Rama Devi
6. Shrimati Jyoti Dhurve
7. Shrimati Bhavana Gawali
8. Shrimati Darshanaben Jardosh
9. Shrimati Raksha Khadse
10. Shrimati Poonamben Hematbhai Maadam
11. Shrimati Jayshreeben Patel
12. Shrimati Riti Pathak
13. Sadhvi Savitri Bai Phoole
14. Shrimati Satabdi Roy (Banerjee)
15. Shrimati Mala Rajya Laxmi Shah
16. Shrimati Supriya Sule
17. Shrimati Rita Tarai
18. Shrimati P. K. Sreemathi Teacher
19. Shrimati Savitri Thakur
20. Shrimati R. Vanaroja

#### **Rajya Sabha**

21. Shrimati Vandana Chavan
22. Shri Prabhat Jha
23. Shrimati Kanimozhi
24. Shri Anubhav Mohanty
25. Shrimati Rajani Patil
26. Shrimati Kahkashan Perween
27. Ms. Dola Sen
28. Shri A.V. Swamy
29. Shrimati Wansuk Syiem
- 30\*. Shrimati Jharna Das Baidya

\* Shrimati Jharna Das Baidya has been nominated to the Committee with effect from 16th December, 2016.

## **COMPOSITION OF THE COMMITTEE ON EMPOWERMENT OF WOMEN**

**(2017-2018)**

**Shrimati Bijoya Chakravarty - Chairperson**

### **Members**

#### **Lok Sabha**

2. Shrimati Anju Bala
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4. Km. Sushmita Dev
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20. Shrimati R. Vanaroja

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21. Shrimati Jharna Das Baidya
22. \*Smt. Vijila Sathyananth
23. Shri Prabhat Jha
24. Shrimati Kanimozhi
25. Shri Anubhav Mohanty
26. \*Smt. Vandana Chavan
27. Shrimati Kahkashan Perween
28. Ms. Dola Sen
29. \*Ms. Saroj Pandey
30. Shrimati Wansuk Syiem

## **COMPOSITION OF THE COMMITTEE ON EMPOWERMENT OF WOMEN**

**(2018-2019)**

**Shrimati Bijoya Chakravarty - Chairperson**

### **Members**

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5. Shrimati Rama Devi
6. Shrimati Jyoti Dhurve
7. Ms. Bhavana Gawali (Patil)
8. Shrimati Darshana Vikram Jardosh
9. Shrimati Raksha Nikhil Khadse
10. Shrimati Poonamben Hematbhai Maadam
11. Shrimati Jayshreeben Patel
12. Shrimati Riti Pathak
13. Sushree Sadhvi Savitri Bai Phoole
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26. Ms. Saroj Pandey
27. Shrimati Kahkashan Perween
28. Smt. Vijila Sathyananth
29. Ms. Dola Sen
30. Shrimati Wansuk Syiem

### **Secretariat**

- |    |                        |   |                 |
|----|------------------------|---|-----------------|
| 1. | Shri. N. C. Gupta      | - | Joint Secretary |
| 2. | Shri. T. S. Rangarajan | - | Director        |
| 3. | Shri. Rajesh Mohan     | - | Under Secretary |



## INTRODUCTION

I, the Chairperson, Committee on Empowerment of Women, having been authorized by the Committee to submit the Report on their behalf, present this -- Report on 'Research & Development: Prospects for Women'.

2. Realizing the importance of various challenges faced by women in pursuing a career in Higher Education and Research and Development with the necessity to empower them with the potent tool of education, the Committee on Empowerment of Women (2016-17) selected this subject for detailed examination and Report to Parliament during the year 2016-17, the subject was further reselected during 2017-18 and 2018-19 for detailed examination. In order to gain firsthand knowledge on the subject, the Committee interacted with various institutions of eminence in the field of Higher Education and Research and Development during the study visits. The Committee also took oral evidence of the Ministry of Health and Family welfare, Indian Council of Medical Research(ICMR), Safdarjung Hospital & Vardhman Mahavir Medical College, Lady Hardinge Medical College & Hospital, Ram Manohar Lohia Hospital & Nursing Home & Post Graduate Institute of Medical Education and Research and All India Institute of Medical Sciences, New Delhi on 21.02.2017, Ministry of Ayurveda, Yoga, Unani, Siddha and Homeopathy(AYUSH), New Delhi on 23.03.2017, Ministry Human Resource Development(HRD), University Grants Commission(UGC), Indira Gandhi Technical University for Women and Indian Institute of Technology(IIT), Delhi on 03.01.2018, Ministry of Human Resources Development and Jawahar Lal University(JNU) of Delhi on 23.04.2018 .
3. The Committee wish to express their thanks to the representatives of the Ministries of Health and Family Welfare, Human Resource Development and Ayurveda Yoga,Unani, Shiddha and Homeopathy and all the other institutions for appearing before the Committee for evidence and furnishing the information desired by the Committee in connection with the issues relating to the subject.
4. The Report was considered and adopted by the Committee at their sitting held on 12.02.2019.
5. For facility of reference and convenience, the observations and recommendations of the Committee have been printed in bold letters in Part II of the Report.

**NEW DELHI**  
**12 February, 2019**  
**23 Magha, 1940 (Saka)**

**BIJOYA CHAKRAVARTY,**  
**Chairperson,**  
**Committee on Empowerment of Women.**

# REPORT

## PART I

### NARRATION ANALYSIS

#### I. INTRODUCTION

**“We must have perseverance and above all, confidence in ourselves. We must believe that we are gifted for something and that thing must be attained.”- Madame Curie**

Education is an essential human virtue and one of the most profound forces shaping a good society and ensuring freedom for the last man in the social structure. Expressing his views on education Swami Vivekananda remarked: education is the manifestation of perfection already present in a man. Education not only gives us a platform to succeed, but also the knowledge of social conduct, courage, character and capacity for ennoblement of humanity. Throughout history, humanity had to fight with the vicissitudes of nature and innovate to survive and organize life in the context of the myriad challenges afflicting humanity. Research and Development has been used to create technological options to prevent, eliminate, or lessen threats to life and the environment and to fulfill social needs. In the ancient era people began as nomadic hunters and gatherers, using as food the animals and plants they found in the environment then they learned how to expand their food supplies by using processing traditional technology, a manifestation of creativity. But now, the improvement in agricultural productivity, transportation, space exploration to artificial intelligence has changed the destiny of mankind in a manner hitherto unprecedented in the history of mankind and has raised the fundamental ethical issues behind Research and Development activities. The survival of the fittest concept made human beings survive because of the capacity to reason and exude scientific temper, the basis of development of mankind. The essential question which always arose was whether mankind was using science and technology as a tool for human progress or to be a salve of its own selfish passions. The engagement of every section of society especially women in this onward march towards perfection of humanity has been always a key theme for empowerment of the various stakeholders.

Thus the idea of Research and Development continues to influence human lives in every possible dimension transforming man from a farmer shepherd man to a

manipulator of machines backed by inanimate energy. The empowerment of women has myriad dimensions like political, social economic, education and so on. In every facet of Women's life, research and development plays a cardinal role in unleashing the power within. Further, the engagement of women in research and development develops an attitude of inquisitiveness and scientific temper which ennobles women and mankind.

The empowerment of women is one of the critical aspects of human rights in the 21st century. Development is not sustainable if it is not equal. And equality cannot be achieved if gender differences are not resolved. It is the duty of nations to uphold the human rights and potential of every woman. The empowerment of women starts on the benches of school, with quality education and access to culture and information. Gender equality includes access to literacy and science. Genuine possibilities for girls to make their own informed choices are integral to it. Gender equality is also a pre-requisite for human rights, health and sustainable development. In India, it was decided as a follow up of the New Educational Policy in 1986 to make science compulsory for all students up to the Tenth standard to ensure that all girls will read science. Thus, the disciplinary choices of women have been significant in the feminist discourse on education and gender. Higher education was entrusted with the responsibility of protecting the constitutional provisions for positive discrimination.

The aspect of empowerment of women through prospects in Higher Education and Research and Development has varied dimensions pertaining to Science & Technology, Human Resource Development, Health and AYUSH System of Medicines. The father of the nation Mahatma Gandhi is known to be one of the few people who encouraged women's active participation in the freedom struggle-marking him as a rare promoter of women's liberation. In the words of Mahatma Gandhi, "My contribution to the great problem (of women's role in society) lies in my presenting for acceptance of truth and ahimsa in every walk of life, whether for individuals or nations. I have hugged the hope that in this, woman will be the unquestioned leader and, having thus found her place in human evolution, will shed her inferiority complex."

There are myriad problems which women confront in the contemporary environmental set up. It is important that they come across a non- discriminatory environment in access to higher education, Health and Scientific research and in

avenues of research and job opportunities. The felt need to bring back the primary objective to bring women scientists back to mainstream who had a break in career due to family obligations and other socio-cultural responsibilities. Further, there stands the perceived need of sensitizing the higher education system through policies and procedures which recognize women equity and diversity and facilitate their achievement. The concern of equity in higher education has also been established as one of the foundational principles of Higher education, Research and Development. Thus, the question of putting human rights at the centre of education and to have balanced human development through programmes of awareness of human rights, human duties and human values gain significance. Taking cognizance of its responsibilities towards Women in Research and Development, the Committee believes it to be a significant issue for policy making and policy implementation to further the goal of Women Empowerment and to envision the ideals of Mahatma Gandhi as he said..." the goal of empowerment he believes, depends on the threefold reevaluation: Firstly, to change in their lives: secondly to create a change in their lives: and thirdly, to change the social structure."

**1.2 During the course of oral evidence held on 03.01.2018, Secretary, Ministry of HRD submitted as under:- "The Indian Higher Education system is one of the most elaborate in the whole world with 799 universities as on date, at least 50,000 colleges and nearly 3.45 crore students. In terms of gender parity, 46 percent of the students are women and this number has steadily increased from 1.3 crores to 1.6 crores in the last four years. This gives us a gender parity of 0.92. Thus the Indian higher educational institutions provide almost equal opportunities for the girl students. However, the endeavor of the Government should be to provide more opportunities for women in science and technology fields so that they can occupy further positions of pride or place in the country. Women have made major strides in all walks of life. Gender equality and women's empowerment are not add-on issues in the development dialogue, but a mainstream dimension of the development discourse locally, nationally and globally.**

**Women have proved to be productive economic actors, prudent decision maker, visionary leaders, compassionate volunteers and constructive**

peacekeepers. And many women are expanding their horizons. Access to employment opportunities and to finance has opened opportunities for many poor women. Society is gradually accepting and appreciating what women can achieve and contribute. Norms, values and legal frameworks are evolving. While in the 1990s very few countries legally protected women from violence, today 127 do. Thus, women have become active in areas where they were not traditionally active, and they have excelled in every aspect of life where they are engaged.

The most important and urgent reform needed in education is to transform it, to endeavour to relate it to the life, needs and aspirations of the people and thereby make it the powerful instrument of social, economic and cultural transformation necessary for the realization of the national goals. For this purpose, education should be developed so as to increase productivity, achieve social and national integration, accelerate the process of modernization and cultivate social, moral and spiritual values.”

1.3 It would be important in the above context to highlight that the issue of empowering women rests considerably upon her presence in the Higher Education Research and Development, access to the better health Research facilities to create well being fostering the ideal of women emancipation. Thus, Quality Higher Education, better management of higher Educational institutions, regulatory regime, Accreditation issues and developing a mindset of research and innovation fuels women empowerment.

In view of the prevailing situation, all issues pertaining to prospects of women in higher education and research and development have been discussed based on the written replies and oral deposition before the Committee by representatives of Ministries such as Ministry of Science & Technology, Ministry of Human Resource Development, Ministry of AYUSH, and Ministry of Health & Family Welfare and representatives of some of the Universities as detailed below.

## **II. EQUALITY, INCLUSION AND ACCESS**

1.4. The Committee believe that Equality, Inclusion and Access of Women in the Higher Education Research and Development is a critical aspect of women empowerment. In this context, the Committee desired to know the context of the

**regional diversities with respect to women's participation in higher Education, Research and Development, percentage of women participation in research and development from women belonging to below poverty line/backward districts/rural areas/terrorist and Maoist violence infested areas in grants/funds regulated by the Ministry during the last 10 years.** In response to the clarification sought, the Ministry of Science & Technology stated as under:-

“All the programmes of KIRAN Division are location neutral and any Indian women who qualifies for the benefits under these is eligible to apply. Nevertheless, a sizable number of women belonging to below poverty line/backward districts/rural areas/terrorist and maoist violence infested area are getting benefit from ‘Science &Technology for Women’ Programme. In this Programme women get training of various techniques/processes for income generation which enhance their livelihood. Awareness Programme on health and nutrition are also conducted for these women. It is also noticeable that significant number of women, having break in career and belonging to these critical areas are getting support under Women Scientists Scheme of KIRAN e.g. Jharkhand (9), Chhattisgarh (02), Bihar (19), North-Eastern States (110), Jammu & Kashmir (40).

The latest data related to women participation in R&D establishments is enclosed **(Annexure –I)**”.

**1.5 Since patriarchal attitude in our society creates bottlenecks in women's participation in higher education and research and development, the Committee enquired about the steps taken by the government to remove the psychological and cultural impediments in this regard.** The Ministry of Science & Technology in response to the query stated as under:-

“DST conducts Sensitization workshops to create awareness among women about various women-specific programmes and also to motivate them to apply under appropriate programmes to get support for research as well as other S&T based activities. DST facilitates travel of aspirant women to attend the Expert Committee Meetings and selected Women get fellowships and/or research project grant based on their qualifications and experience. These practices gives the

beneficiaries financial freedom and minimize financial burden of family on women's higher education. DST has also initiated Vigyan Jyoti programme which entails counselling of the family members (parents) of the girl child".

**1.6** Gender Parity is an important indicator of Women empowerment in the field of Education. The Committee enquired about the initiative taken towards gender parity in the realm of Science & Technology pertaining to Women Scientists Scheme, KIRAN (Knowledge Involvement in Research Advancement through Nurturing), CURIE (Consolidation of University Research for Innovation and Excellence in Women Universities), Women Technology Park (WTP), Science for Women Health & Nutrition (SFWHN), Vigyan Jyoti, Training Programmes for Women Scientists, Indo-US Fellowship for Women in Sciences.

**1.8** As regards, Data pertaining to training programmes conducted under Women Component, the Ministry of Science & Technology stated as follows:-

S.No	Financial Year	Total Training Programmes	Total Scientists
1.	2010-11	13	267
2.	2011-12	11	271
3.	2012-13	10	193
4.	2013-14	10	201
5.	2014-15	10	252
6.	2015-16	10	207
7.	2016-17	9	180

Six training programmes were conducted in 2017-18 for Women Scientists/Technologists. Approximately 150 women scientists benefitted from these programmes.

The Ministry of Science & Technology also informed the Committee that under the Indo-US Fellowship for Women in Sciences: In 2018-19, DST plans to support first batch of 20 women from the realm of Science, Technology, Engineering, Mathematics and Medicine (STEMM) to conduct research in collaboration with academic institutes located in USA in the laboratories located there.

Various Programmes under KIRAN provide better job opportunities to the beneficiaries. Almost all the WOS beneficiaries publish high quality research papers, while some have also filed patents and also continue to work in Research and Development (R&D) activities. All the seven Women-only Universities supported under CURIE have established state-of-the-art research laboratories which provide excellent in-house research facilities for the students and faculty. Also, about one-third of the beneficiaries of WOS have now regular R&D jobs”.

1.9 In response to the query of the Committee regarding the different levels of interventions proposed for enhancement of women participation in higher education and research, the Ministry of Science & Technology replied as follows:-

“Fifteen Pilot Projects been sanctioned to premier academic institutes across the country under Vigyan Jyoti and all are in the process of implementation. The feedback and detailed reports of these Pilot Projects are expected by July 2018 and the outcome will be included in final memorandum for Expenditure Finance Committee (EFC) of this new major initiative ‘Vigyan Jyoti’ where all these interventions and numbers mentioned in Question are likely to be proposed.

Post-doctoral Fellowship (PDF)

The Science and Engineering Research Board (SERB), a Statutory body of the Department of Science and Technology is implementing a National Postdoctoral Fellowship Scheme (NPDF) to identify motivated young researchers and provide them support for doing research in frontier areas of science and engineering. The Scheme has designed to accommodate more women researchers by giving them five years of age relaxation for applying under the Scheme. More than 850 (36.6%) women scientists have been supported so far.

As DST is launching a dedicated ‘India Science, Technology and Innovation (ISTI) Web Portal, which will give an intensive as well as extensive account of the entire Science, Technology and Innovation spectrum of India, including for Women in STEM, there is no need to replicate the effort”.

1.10 Since the Science and Technology Policy came in 2013, hence the Committee enquired from the Ministry regarding the changes envisaged in the Policy to



achieve the goals of Innovation and inclusion. The Ministry of Science & Technology dwelled upon the issue as follows-:

“Apart from the other aspirations the Science, Technology and Innovation (STI) Policy - 2013 envisages making careers in science, research and innovation attractive enough for talented and bright minds and establishing world class infrastructure for Research and Development (R&D) for gaining global leadership in frontier areas of science. Attracting talented and bright minds towards careers in science, research and innovation is one of the main objectives of the STI Policy -2013. Innovation for inclusive growth implies ensuring access, availability and affordability of solutions to as large a population as possible. The instruments of the STI policy will enable this to be realized. The policy will drive both investment in science and investment of science-led technology and innovation in select areas of socio-economic importance. The Ministry further stated that emphasis will be to bridge the gaps between the STI system and the socio-economic sectors by developing a symbiotic relationship with economic and other policies.

**In this context, the Ministry of Science & Technology highlighted that the key elements of the STI policy 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.
- Establishing world class infrastructure for R&D for gaining global leadership in some select frontier areas of science.
- Positioning India among the top five global scientific powers by 2020.
- Linking contributions of science, research and innovation system with the inclusive economic growth agenda and combining priorities of excellence and relevance.
- Creating an environment for enhanced Private Sector Participation in R&D.

- Enabling conversion of R&D outputs into societal and commercial applications by replicating hitherto successful models as well as establishing of new PPP structures.
- Seeding S&T-based high-risk innovations through new mechanisms.
- Fostering resource-optimized, cost-effective innovations across size and technology domains.
- Triggering changes in the mindset and value systems to recognize, respect and reward performances which create wealth from S&T derived knowledge.
- Creating a robust national innovation system.

Presently, there is no proposal to revise the policy”.

1.11 The Committee sought information regarding a detailed evaluation of the use of funds given by DST/DBT to various institutions, method of selecting institution for grant of fund etc. from the Ministry of Science & Technology. In response to the query of the committee, the Ministry stated that:-

“in both Departments (DST & DBT) Selection of R&D Proposals/Institution for sanction is done through the Task Forces and Expert Committees. These Committees also review the projects. After recommendation by the Committees the proposal are processed for IFD concurrence as per the norms and projects are sanctioned after getting approval from the Competent Authority. The detail of releases made to Autonomous Institutions of Department of Science and Technology (25 institutes) and Department of Biotechnology (16 Institutes) during last three years is as under:-

Brief summary of funds disbursed to grantee institutions is as below:

Sl.No	Financial Year	Funds release to AIs (in crores Rupees)
-------	-------------------	--

		Department of Science and Technology	Department of Biotechnology
1	2017-18	1064.93	622.33 (upto 31.1.2018)
2	2016-17	1099.58	649.05
3	2015-16	896.66	561.60

Most of the programs under Knowledge involvement in Research Advancement Nurturing (KIRAN) are individual centric, however, in Consolidation of University Research for Innovation and Excellence (CURIE) grant-in aid disburse to women only Universities. CURIE is top-down program, where women only universities having Science and Engineering departments for Post Graduation and Research are eligible. Final selection is done on the basis of recommendations made by Expert Committee after presentation and on site visit of the University. After administrative approval CURIE project is processed for IFD's concurrence and finally sanctioned. The Expert Committee also review the progress made under the project.

Brief summary of funds disbursed to grantee institutions:

S.No.	Financial Year	No. of grantee institutions	Amount disbursed (Rs. In lakhs)
1.	2018-19	1	38.00
2.	2017-18	3	493.00
3.	2016-17	2	242.00
4.	2015-16	2	280.00
5.	2014-15	1	117.00
<b>Total</b>		9	1170.00

1.12 In response to the issue of women participation in Higher Education, Research and Development in the country in tune with the constitutional aspiration of Gender equality and Justice, and the context of the regional diversities with respect to women's participation in Higher Education, Research and Development, the Ministry of Human Resources & Development stated as follows :-

"R&D support in Higher Education is provided if the proposals meet the desired benchmark and recommended by expert committee. The UGC has exclusive fellowship schemes for women: One is for post Doctoral Fellowship and another one is Swami Vivekanand Single Girl Child Fellowship for Research. These fellowships will go a long way in promoting research for women exclusively."

The Ministry of Human Resource Development further stated on this issue as follows:-

"The MHRD, through the UGC, has been running various programmes/schemes for improving gender participation in Higher Education. One such scheme is Development of Women Studies in Universities and Colleges and Capacity Building and Women Managers in Higher Education. The objective is to strengthen and sustain Women Study Centres in Universities by establishing them as statutory department in the University system to facilitate their own capacity to network with other constituents. This has increased the participation of women in higher education management for better gender balance. Up to 31-3-17, as many as 163 Women Study Centres have been established and functioning in the university system.

In some organizations like School of Planning and Architecture, More than 50% of faculty are women. More than 80% latest Faculty recruitment in the school in the year 2013-14 comprises of women. Presently two out of five Deans are women."

The Ministry of HRD during the oral evidence tendered before the Committee stated as follows :-

"In the higher education sphere, the participation of the women has been steadily increasing. India has got gender parity index of 0.91 which is considered as above the world average. It is not the best but it is above the world average. It should be one is to one but right now it is 0.91. That is for every one male student in the higher education system, we have 0.91 female student. The happy thing is since 2011-12, this number has been increasing or this ratio has been increasing steadily. It was 0.89 in the year 2011-12 and by 2015-16 it has come to 0.91. It is going to be further increased because of the various measures that the

Government is taking and also because of the rising awareness of the girl students across the country. Since 2011, I'm happy to inform the Committee that we have added 30 lakh female students into the higher education system which is not a mean achievement. This actually holds very good even in the categories of SCs and STs. ST is somewhat less in the girl students but otherwise we are able to maintain this and we are determined to see that this process further improves and we will be guided by your suggestions in taking this forward.

As far as technology is concerned, Institutes of technology are concerned, girls' percentage did not hold a clear trend. In premier institutions the percentage of girls has been very less; whereas in terms of other engineering colleges, other technical colleges, it is at a decent percentage of about 24. So, the Government has considered this. They have appointed a high level committee and they have recommended that we must take steps to raise the percentage of girl students in the IITs to 20 before 2020. This is the first year of implementation of this recommendation. We will certainly be having 14 per cent students in all IITs, NIITs and all premier institutions from the girls' side."

1.13 During the oral evidence, the Vice-Chancellor, JawarharLal Nehru University stated as follows:-

"We have a system of deprivation points for female students. We give five deprivation points. As a result, we see that female students get benefited in the admission. In the P.hD there are 52 per cent female student, in the PG programmes 56 per cent and overall 51 percent female students are there in the University."

"I just wanted to add one point with regard to the deprivation points, If a female student belongs to SC, ST, OBC or PH category, she gets seven deprivation points while a female student from unreserved category gets five points. That automatically becomes an advantageous position for them to come into the mainstream."

"There is one Director; 26 female professors are wardens. We have five professor emeritus. In our University, we have 32 female professors. In Academic Council, out of 120 members, we have 36 female professors as members. JNU is the only university which has a Centre for Women Studies. In this Centre, we do

research on all aspects of gender issues. They have contributed a lot in bringing out the gender related issues to the forefront. We also have Zakir Husain Centre for Educational Studies which looks at the gender parity in education. We have several students who are physically and visually impaired but they have achieved gold medals at the national level, at the State level in various sports activities.”

1.14 Further, the Secretary, Ministry of HRD during the oral evidence informed about some of the steps that the UGC has taken for promoting opportunities for women in the higher education institutions :-

“Financial assistance to universities and colleges is given for construction of women’s hostels. Financial assistance is given for development of women’s studies in Indian Universities and colleges. Capacity building for women managers in higher education is another scheme. Post-doctoral fellowships are given to women candidates. There is a post-graduate Indira Gandhi scholarship scheme for single girl child. Then, we establish new model degree colleges in educationally backward districts where there is a low gross enrolment ratio in higher education. Residential coaching academies for minorities, Schedules Castes, Scheduled Tribes and women in the central universities have been set up. We have also taken, in Government level, proactive measures to increase the percentage of girl students in our premier technical institutions, that is, the Indian Institute of Technologies and the National Institute of Technologies. Currently, there are nine per cent girl students in B.Tech programmes of the IITs.”

1.15 The representative of University of Delhi deposed during the oral evidence as hereunder :-

“I want to talk about the Ph. D. Degree awarded during the year 2016-2017. University of Delhi has 13 Faculties and in these 13 Faculties we have 51 Departments. For example, in Faculty of Arts, number of

female students who were awarded Ph. D. comes to 53 and male was 54. So, they are neck-to-neck. In Social Sciences, females outscoored. They are 34 and the male are 31. I am talking of one academic year, that is, 2016-2017.

In Mathematical Sciences, females were awarded 22 Ph. D. and male 14. In Faculty of Commerce and Business, female were 21 and male only two. In Applied Social Sciences and Humanities where we have Business Economics as a Department with single-Department Faculty, female is two and male is one. In Faculty of Science, we have Departments like Anthropology, Chemistry, Botany, Physics & Astrophysics, Geology, Zoology, Home Science, B.R. Ambedkar Centre for Biomedical Research, Environmental Sciences and Pharmacy. So, 86 female students were awarded Ph. D. Degree and male were 56.

In Faculty of Interdisciplinary & Applied Sciences wherein we have some of the best Departments and where we attract lot of research collaboration in Science and other Faculties like Departments like Electronic Sciences, Genetics, Microbiology, Biochemistry, Bio Physics, Plant Molecular Biology, Physical Sciences and so on and so forth. The number of female students who were awarded Ph. D. Degree were 35 in comparison to male who were 18. Faculty of Technology is the only Faculty where male outscoored. The number of females awarded Ph. D. were 14 and for male it was seven, but I think the Women's Technological University has taken care of it.

In Faculty of Medical Sciences, the females were 11 and male were 10. In Faculties of Management Studies, Law, Education and Music, which are single-Department Faculties, 45 female students

were awarded Ph. D. Degrees in comparison to male who were only 19. So, females have really outscored.”

1.16 When the Committee enquired from the representative of the University regarding empowerment measure, the University replied as follows :-

“I will also include some special clauses, which have been recently passed by the Executive Council of the University for some special help for all the students. The Clause K2, which says that women scholars may be provided maternity leave / child-care leave once in their entire duration of M. Phil. / Ph. D. for up to 240 days. This period shall not be counted in the total duration for submission of M. Phil dissertation / Ph. D. in the total duration for submission of M. Phil dissertation / Ph. D thesis. (ii) Women candidates and persons with more than 40 per cent disability may be allowed a relaxation of one year for M. Phil and two years for Ph. D. in the maximum duration, that is, the maximum span period.

Women researchers / scientists are encouraged to publish in prestigious journals of higher impact factor by providing Publication Grant starting from \$ 500 to up to the full amount depending on the prestige of the journal. I must share here that there are women scientists in our University who have published papers in journals like Nature and other very prestigious journals.”

**1.17** As regards the percentage of women participation in research and Development from women belonging to below poverty line/backward districts/rural areas/terrorist and Maoist violence infested areas during the last 10 years, the Ministry of HRD stated as follows:-



“This information is not available. However, the following women centric initiatives of MHRD are currently under way:

**(i) Measures for Women & Differently-abled:** The UGC has amended its minimum standards and procedure for award of M. Phil/Ph.D degrees regulations by allowing a relaxation of one year for M.Phil and two years for Ph.D for persons with more than 40% disability. Similar relaxations have been made in the cases of women candidates for M.Phil/Ph.d with allowance of maternity leave/child care leave for upto 240 days. Women have also been allowed for transfer of research data due to relocating to new institutions. UGC has also issued advisories to all Universities and Colleges to set up barrier-free campus for persons with disabilities.

In case of relocation of an M.Phil/Ph.D. woman scholar due to marriage or otherwise, research data shall be allowed to be transferred to the University to which the scholar intends to relocate.

**(ii). Improving Gender Balance in IITs:** The IIT Council in its 51<sup>st</sup> meeting held on 28.04.2017, on the basis of the recommendations of a JAB Sub Committee, decided to increase female enrolment in B.Tech. programmes of IITs from the current 8% to 14% in 2018-19, 17% in 2019-20 and 20% in 2020-21 by creating supernumerary seats. Reservation for Scheduled Castes (SCs), Scheduled Tribes (STs), Other Backward Classes (OBCs) and Physically Handicapped (PH) categories will be applicable in the supernumerary seats in the same manner as for the sanctioned seats.

For the first time in the history of IITs, **women were nominated in the IIT Council**. And it has been the constant endeavor of the Ministry to do the same in other bodies.”

**1.18** The Committee desired to know regarding involvement of female researchers in the field of medical sciences in AYUSH in terms of their percentage to the total researchers and efforts taken by the Ministry of AYUSH to provide support for involvement of women in the field of medical research. The Ministry of AYUSH in response to the query of the Committee stated as follows:-

“There are 10 National level institutions engaged in educational activities under Ministry of AYUSH. The data received from these institutions provide a very bright picture as far as education of women is concerned. A summary of the report received from the Institutes are as below:

- (i) NIS, Chennai has reported that out of 46 PG students during 2017-18, 38 (83%) are females. Further, out of 26 faculty members, 09 are females. All these 8 female faculties have been encouraged to register themselves for Ph.D programme on part time basis.
- (ii) MDNIY, New Delhi has reported that out of 21 faculty members, 09 are women.
- (iii) AIIA, New Delhi: There are 84 female MD scholars at present which is approximately 75% of the total MD students.
- (iv) IPGTRA, Jamnagar: There are a total of 11 females as faculty members and 111 female scholars are involved in the field of medical research.
- (v) The number of female scholars in NIH, Kolkata is also more than 50%. During 2017-18, out of 35 MD students, 22 are female.
- (vi) At NIUM, Bangalore, 53.1% MD students are women. 27.7 % faculty members are women.
- (vii) Three Institutes, i.e, AIIA, New Delhi, NIN, Pune and NIS, Chennai are headed by women.

In addition to above, the Research Councils have also reported good participation of women scholars in their institutes. From the figures received from Research Councils, the number of female researchers is more than 50% of the total researchers. There is almost equal participation of female scientists in international conferences.

Further Ministry of AYUSH ensures that there is no discrimination against the female researchers. Further, the Ministry also ensures that Government instructions related to female employees are complied with.

The Committee during the oral evidence of the Ministry of AYUSH were informed that -:

" The very heartening development which has taken place is that we had major recruitments in Homeopathy and Ayurveda recently and almost 50 per cent of the

new recruits as research officers were women. So, incrementally, over the next few years, we will have almost half the scientists working in these research councils being women"

The Ministry further stated that:-

"Broadly, in terms of both the students seeking admission and the new research scientists who are being recruited, the ratio of women is almost 50 per cent. Then, as far as actual research which is being conducted, a large number of researchers are on women related issues, diseases related to women.."

**1.19** In the context of 'Equality, inclusion & Access' of women in the field of Medical Health Care, the Ministry of Health & Family Welfare inter-alia responded to the queries of the Committee as follows :-

"There is a good representation of women in the workforce at ICMR. Seven of ICMR's research institutes are headed by women. Under the scheme of Human Resource Development for Health Research launched by the Department of Health Research in 2013-14, there is a specific component for grant of financial assistance to Women Scientists who have had a break in career, to take up fellowships and start up projects. So far, 114 number of Women Scientists, including those having break in their career, have availed the fellowships under this scheme. As many as 19 Women Scientists have availed fellowships for training abroad under the HRD scheme. Similarly, under another scheme of the Department of Health Research, namely, the Grant in Aid Scheme for Inter-sectoral Coordination & Convergence for Promotion of Health Research, as many as 84 number of Women Scientists have been funded Research Projects in the various fields."

### **III. WOMEN TECHNOLOGY PARKS**

**1.20** Gender Parity is an important indicator of Women empowerment in the field of Education. The Committee enquired about the initiative taken towards gender parity in the realm of Science & Technology pertaining to Women Scientists Scheme, KIRAN (Knowledge Involvement in Research Advancement through Nurturing), CURIE (Consolidation of University Research for Innovation and Excellence in Women Universities), Women Technology Park (WTP), Science for Women Health & Nutrition (SFWHN), Vigyan Jyoti, Training Programmes for Women Scientists, Indo-US Fellowship

for Women in Sciences. The Ministry of Science & Technology informed the Committee about the achievements as follows-:

“

- a. Women Scientists Scheme (WOS): More than 4000 women got financial support under three components of Women Scientists Scheme (WOS-A, B and C).
- b. KIRAN (Knowledge Involvement in Research Advancement through Nurturing): This scheme was initiated in 2014 and includes all the women specific programme of DST. Streamlining of existing programmes and launch of new programmes is the main goal of KIRAN to ensure more participation of women in S&T domain.
- c. CURIE (Consolidation of University Research for Innovation and Excellence in Women Universities): Seven Women only Universities have been supported under CURIE for development of infrastructure and research facilities in order to create State-of-the-art research laboratories and other facilities for strengthening their scientific knowledge.
- d. Women Technology Park (WTP):** More than 30 WTPs have been supported in different parts of the country which provide one-step platform to address location-specific and/or need-based challenges faced by women through appropriate and/or adaptive technologies.
- e. Science for Women Health & Nutrition (SFWHN): Research based projects have been supported to academic institutions and non-government organisations to address women's health and nutrition issues. DST also supports audio programmes through Community Radios especially targeting women and children.
- f. Vigyan Jyoti: 15 Pilot Projects under Vigyan Jyoti have been supported in 2017-18 in premier academic institutes of the country which are now in implementation phase.
- g. Training Programmes for Women Scientists: Six training programmes in 2017-18.

#### **IV. TRAINING PROGRAMMES FOR WOMEN SCIENTISTS**

**1.21** As regards the Training Programmes for Women Scientists, the Ministry of Science & Technology further informed as under:

"Training programmes focus on:

- a. Responsiveness; to the challenging democratic needs and expectations of the citizens and organizations and technological developments.
- b. Commitment; to democratic values and concept of partnership and participative decision making.
- c. Awareness; of technological, economic and social developments.
- d. Accountability; to ensure high performance in every professional field and cost effective methods of delivery.

Further, the objectives of the training as mentioned by the Ministry are as follows:-

- a. Promoting better understanding of professional requirements as well as organisations to socio-economic and political environment.
- b. Keeping up-to-date and enhancing professional knowledge and skills needed for better performance of individuals and organisations in the profession of science and technology.
- c. Creating awareness of latest technological, economic and social developments and infusion of scientific temper in the society.
- d. Generating responsiveness to the challenging needs of the democratic system and expectations of the citizens from the scientific and technological developments.
- e. Providing structured forum for peer-to-peer interaction, experience sharing and exchange of views among the scientific community for better networking and synergy.

The Ministry while informing the Committee about the Measurable Outcomes stated that to provide holistic training to scientists working in government sector with an aim to empower them with right kind of capabilities with structured training programmes of short duration cutting across sectors in S&T Department & Ministries."

**1.22** As regards, Data pertaining to training programmes conducted under Women Component, the Ministry stated as followed:-

S.No	Financial Year	Total Training Programmes	Total Scientists

1.	2010-11	13	267
2.	2011-12	11	271
3.	2012-13	10	193
4.	2013-14	10	201
5.	2014-15	10	252
6.	2015-16	10	207
7.	2016-17	9	180

Six training programmes were conducted in 2017-18 for Women Scientists/Technologists. Approximately 150 women scientists benefitted from these programmes.

The Ministry also informed the Committee that under the Indo-US Fellowship for Women in Sciences: In 2018-19, DST plans to support first batch of 20 women from the realm of Science, Technology, Engineering, Mathematics and Medicine (STEMM) to conduct research in collaboration with academic institutes located in USA in the laboratories located there.

Various Programmes under KIRAN provide better job opportunities to the beneficiaries. Almost all the WOS beneficiaries publish high quality research papers, while some have also filed patents and also continue to work in Research and Development (R&D) activities. All the seven Women-only Universities supported under CURIE have established state-of-the-art research laboratories which provide excellent in-house research facilities for the students and faculty. Also, about one-third of the beneficiaries of WOS have now regular R&D jobs”.

## **V. POST DOCTORAL FELLOWSHIP FOR WOMEN**

**1.23** In response to the query of the Committee regarding the different levels of interventions proposed for enhancement of women participation in higher education and research, the Ministry replied as follows-:

“Fifteen Pilot Projects been sanctioned to premier academic institutes across the country under Vigyan Jyoti and all are in the process of implementation. The feedback and detailed reports of these Pilot Projects are expected by July 2018

and the outcome will be included in final memorandum for Expenditure Finance Committee (EFC) of this new major initiative 'Vigyan Jyoti' where all these interventions and numbers mentioned in Question are likely to be proposed.

#### **Post-doctoral Fellowship (PDF)**

The Science and Engineering Research Board (SERB), a Statutory body of the Department of Science and Technology is implementing a National Postdoctoral Fellowship Scheme (NPDF) to identify motivated young researchers and provide them support for doing research in frontier areas of science and engineering. The Scheme has designed to accommodate more women researchers by giving them five years of age relaxation for applying under the Scheme. More than 850 (36.6%) women scientists have been supported so far.

As DST is launching a dedicated 'India Science, Technology and Innovation (ISTI) Web Portal, which will give an intensive as well extensive account of the entire Science, Technology and Innovation spectrum of India, including for Women in STEM, there is no need to replicate the effort”.

### **VI. SCIENCE & TECHNOLOGY POLICY- 2013: THE PROSPECTS FOR WOMEN.**

**1.24** Since the Science and Technology Policy came in 2013, hence the Committee enquired from the Ministry regarding the changes envisaged in the Policy to achieve the goals of Innovation and inclusion. The Ministry dwelled upon the issue as follows:-

“Apart from the other aspirations the Science, Technology and Innovation (STI) Policy - 2013 envisages making careers in science, research and innovation attractive enough for talented and bright minds and establishing world class infrastructure for Research and Development (R&D) for gaining global leadership in frontier areas of science. Attracting talented and bright minds towards careers in science, research and innovation is one of the main objectives of the STI Policy -2013. Innovation for inclusive growth implies ensuring access, availability and affordability of solutions to as large a population as possible. The instruments of the STI policy will enable this to be realized. The policy will drive both investment in science and investment of science-led technology and innovation in select areas of socio-economic importance. The Ministry further stated that emphasis will be to bridge the gaps between the STI system and the socio-economic sectors by developing a symbiotic relationship with economic and other policies.

**In this context, the Ministry highlighted that the key elements of the STI policy 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.
- Establishing world class infrastructure for R&D for gaining global leadership in some select frontier areas of science.
- Positioning India among the top five global scientific powers by 2020.
- Linking contributions of science, research and innovation system with the inclusive economic growth agenda and combining priorities of excellence and relevance.
- Creating an environment for enhanced Private Sector Participation in R&D.
- Enabling conversion of R&D outputs into societal and commercial applications by replicating hitherto successful models as well as establishing of new PPP structures.
- Seeding S&T-based high-risk innovations through new mechanisms.
- Fostering resource-optimized, cost-effective innovations across size and technology domains.
- Triggering changes in the mindset and value systems to recognize, respect and reward performances which create wealth from S&T derived knowledge.
- Creating a robust national innovation system.

Presently, there is no proposal to revise the policy”.

## **VII. REPRESENTATION OF WOMEN IN RESEARCH ORGANISATIONS**

**1.25** The Committee desired to know the name of the various organizations working under the Ministry pertaining to Research and Development and the representation of women in such organizations. The Committee further enquired about women centric measures taken in such organization to create an enabling environment



for their participation in Research and Development. The Ministry of Science & Technology responded to the query of the Committee as follows:-

“The list of various institutions working under the Department of Science and Technology is annexed at **Annexure-II**. About 17% of the total scientific manpower working in these organizations are women. Enabling environment has been created in these institutions for women scientists by way of crèche facilities, protection measures from harassment at work place, creation of

proper hygienic environment like separate toilets, hostels for women etc. In addition to the above, women scientists of these institutes are encouraged to apply for women-specific programs of different ministries/departments.

The details of Autonomous Institutions under the Department of Biotechnology (DBT) regarding the contributions and the strength of Women Scientists in these Institutions and also the Department is placed at **Annexure-III & Annexure-IV** .

The details of women-centric measures taken by these Institutes and the Department of Biotechnology for creating and enabling environment for participation in Research and Development is placed at **Annexure-V**.

Department of Scientific and Industrial Research (DSIR) has a mandate to carry out the activities relating to indigenous technology promotion, development, utilization and transfer. The primary endeavour of DSIR is to promote R&D by the industries, support a larger cross section of small and medium industrial units to develop state-of-the art globally competitive technologies of high commercial potential, catalyze faster commercialization of lab-scale R&D. In order to meet the specific needs of women and promote technology capability building among women, a “Technology Development and Utilization Programme for Women (TDUPW)” is being operated by the Department of Scientific and Industrial Research (DSIR). DSIR has a strength of 78 total employees, of which 13 are women.

The following organisations are working under the Department;

1. Council of Scientific and Industrial Research (CSIR)
2. Consultancy Development Centre (CDC)
3. National Research Development Corporation (NRDC)
4. Central Electronics Limited (CEL)

### **Council of Scientific and Industrial Research (CSIR)**

CSIR has a dynamic network of 38 national laboratories. CSIR, including its constituent laboratories across the country has a total strength of 11949 total employees, of which 2106 are women. Of the total of 3446 scientists in the CSIR, 632 are women scientists (as of 6 July 2018). At present, CSIR is supporting about 7000 research fellows, of which 36% are women.

So as to promote “women in science”, CSIR gives a relaxation of 5 years in terms of upper age limit to women candidates to be eligible for all the fellowships (JRF/SRF)/research associateships (RA) awarded by CSIR for pursuing doctoral and postdoctoral research.

**1.26** CSIR’s R&D efforts, programmes and schemes are open to men and women scientists across its laboratories. Currently, CSIR is focusing its R&D activities in the following categories:

- Fast Track Translation (FTT) Projects: Close to market, business plan driven;
- Fast Track Commercialisation (FTC) Projects: Positioned to create new business opportunities or expand existing businesses;
- Mission Mode (MM) Projects: Focus at technology development, scale up and deployment for national unmet needs;
- Niche Creating High Science/ High Technology (NCP) Projects: Based on the specific scientific niche created by a group in the laboratory; Focused on retaining and developing the domain expertise, aimed at global leadership;
- Focused Basic Research (FBR) Projects: Focus at High end basic research;
- Facility Creation (FC) Projects: Capital intensive projects, aligned to key R&D pursuits, aimed at providing the required state-of-art infrastructure to labs.

Thematic approach to harness multidisciplinary talent and infrastructure for solving specific challenges in identified sectors is also a focused new initiative being pursued by the CSIR.

CSIR has put mechanisms in place for providing impetus to encourage research and development as well as commercialization of inventions and innovations, which include:

- Sharing of proceeds with scientists from sponsored projects, consultancy projects, technical service projects and premia and royalty received from the industry;
- Allowing the researchers to have an equity stake in scientific enterprises; and also spin-offs while in professional employment with CSIR national laboratories/institutions;  
Permitting the CSIR national laboratories/institutions to invest knowledgebase as equity in the enterprises;
- Encouraging the CSIR national laboratories/institutions to set up incubation centers; and
- Facilitating mobility of researchers between industry and CSIR national laboratories/institutions; and
- CSIR national laboratories/institutions can create “Knowledge Alliance” with private industry to forge partnership to achieve higher level of market driven R&D in the knowledge economy. This measure encourages scientists to pursue product driven R&D and enhance chances of commercialization.

The aforementioned steps allow for continued involvement of the researcher, both men and women, for translating his/her inventions or innovations to commercial knowledge while also unleashing their entrepreneurial skills...

...Further, CSIR, recognizing that inclusive innovation in the country would be the way for achieving socio-economic growth and competitive advantage globally, has facilitated the national endeavour of achieving faster and inclusive growth by undertaking R&D programmes that focus on innovation. CSIR has thus been providing the S&T knowledge base needed for the benefit of the Nation and its industries, including MSMEs and the common people. The efforts are focused at bringing in desired S&T interventions for enhancing the socio-economic development while improving the quality of life, removing drudgery and augmenting income of the people. The projects undertaken by CSIR have been

contributing to the generation of valuable knowledge base and S&T interventions with immense value and potential to create a niche for the country.

Benchmarked globally, CSIR is ranked 9th in the world amongst 1207 government institutions, with an overall global ranking of 75 in a study covering 5250 institutions world-wide, according to the SCImago Institutions Ranking World Report 2017.

Pioneer of India's intellectual property movement, CSIR today is strengthening its patent portfolio to carve out global niches for the country in select technology domains. CSIR is granted 90% of US patents granted to any Indian publicly funded R&D organization. On an average CSIR files about 200 Indian patents and 250 foreign patents per year. Amongst its peers in publicly funded research organizations in the world, CSIR is a leader in terms of filing and securing patents worldwide.

CSIR's role in S&T human resource development is noteworthy. It nurtures Research Scholars supporting them through fellowships namely Junior Research Fellowships (JRFs), Senior Research Fellowships (SRFs), Research Associates etc. It also provides Extra Mural Research Funds to Publicly Funded institutions. Since inception of the fellowship schemes, a total of 144185 doctoral and postdoctoral fellowships have been awarded by CSIR. Presently, CSIR is supporting more than 7000 doctoral and postdoctoral research fellows working in more than 500 universities and R&D institutions across the country.

CSIR provides significant technological intervention in the areas of (i) Aerospace, Electronics, Instrumentation & Strategic Sectors; (ii) Civil, Infrastructure & Engineering; (iii) Ecology, Environment Earth & Ocean Sciences and Water; (iv) Mining, Minerals, Metals and Materials; (v) Chemicals (including leather) and Petrochemicals; (vi) Energy (Conventional & Non-Conventional) and Energy Devices; (vii) Agri., Nutrition & Biotech; and (viii) Healthcare.

So as to promote "women in science", CSIR gives a relaxation of 5 years in terms of upper age limit to women candidates to be eligible for all the fellowships

(JRF/SRF)/research associateships (RA) awarded by CSIR for pursuing doctoral and postdoctoral research.

Of total strength of 12342 total employees in CSIR, 2148 are women. Of the total of 3513 scientists in the CSIR, 645 are women scientists (as of Dec 2017). Women scientists are encouraged to pursue R&D in all fields of science and technology in the CSIR.

**1.27 National Research Development Corporation** has a total strength of 84 total employees, of which 20 are women. **Consultancy Development Centre** has a total strength of 18 total employees, of which 8 are women. **Central Electronics Limited** has a total strength of 402 total employees, of which 56 are women”.

**1.28** The Committee desired to know the total number/percentage of women students/researchers in the organisations under the Ministry of AYUSH who have passed out in the last three years, the Ministry responded to the query of the Committee as follows:-

“The percentage of women students as reported by the institutes is very encouraging. Institute-wise details are as under:-

S.No.	AYUSH Institutes /Research Council	Total No. of Scholars	Total No. of Female Scholars	% of Female Scholars
1.	NIA, Jaipur	515	241	47
2.	NIS, Chennai	107	86	80
3.	NIUM, Bangalore	114	41	36
4.	NIH, Kolkata	101	42	42
5.	IPGTRA, Jamnagar	-	67	-
6.	MDNIY	481	274	57

## **VIII. PROSPECTS FOR WOMEN IN RESEARCH & DEVELOPMENT INSTITUTIONS IN PRIVATE SECTOR:**

**1.29** Due to the sizeable presence of Private Universities in Education, the Committee enquired about the contribution of Private sector in Research and Development and the participation/contribution of Women Researches in this regard. In response to the query, the Ministry stated as follows:-

“approximately 125 Private academic institutions including Universities and PG Colleges have been supported under “Fund for Improvement of S& T infrastructures in Universities and Higher Educational institutions (FIST)” with a budgetary allocation of about Rs 120 Crores since the initiation of the program. The Women participation is about 10-20% in FIST Supported departments in Private Academic institutions. One Private University has been supported under “Promotion of University Research and Scientific Excellence (PURSE)”.

In addition, 38 Post Graduate Women Colleges and 4 Women Universities with a budget allocation of Rs 34.5 Crores have also been supported under FIST. These Universities and Academic institutions in the Private Sector are also contributing in the overall publications pool in Indian R&D growth by publishing in the SCI Journals”.

## **IX. SCHOLARSHIP/AIDS/FACILITIES FOR WOMEN IN HIGHER EDUCATION AND RESEARCH & DEVELOPMENT**

**1.30** In response to the query of the Committee pertaining to the specific scholarships/aids/facilities provided to promote the involvement of women in Research and Development, Ministry of Science & Technology stated as under:-

“Under Women Scientist Scheme there is provision of fellowship of Rs.55,000/- per month (for Ph.D or equivalent), Rs.40,000/- per month (for M.Tech or equivalent) and Rs.30,000/- per month (for M.Sc or equivalent). Besides

fellowships, there are other expenditure heads in research grant extended under WOS Project for these categories within total cost of Rs.30 lakh, Rs.25 lakh and Rs.20 lakh respectively.

Innovation in Science Pursuit for Inspired Research (INSPIRE), a national scheme, conceptualized, designed developed and is being implemented by the Department of Science and Technology (DST), New Delhi. INSPIRE aims to identify, sustain and strengthen human capacity for Research and Development base of the country. *Scholarship for Higher Education (SHE)* – INSPIRE Scholarship and *Assured Opportunity for Research Careers (AORC)* – INSPIRE Fellowship and INSPIRE Faculty Award components of INSPIRE Program also by virtue of its nature promote the women in Research and Development on competitive basis.

**Scholarship for Higher Education (SHE)** aims to enhance rates of attachment of talented youth to undertake higher education in science intensive programs by providing scholarships and mentoring through summer attachment to performing researchers. The scheme would offer 12,000 scholarships every year @ Rs 0.80 lakh per year from 2018-19 for undertaking Bachelor and Masters level education in natural and basic sciences for the talented youth in the age group 17-22 years. The main feature of the scheme is in mentorship support being planned for every scholar through INSPIRE Scholarship. About 50% beneficiaries of the SHE component of INSPIRE Program are women.

**Opportunity for Research Careers** aims to attract, retain and nourish talented students for strengthening the R&D base. It has two sub-components. INSPIRE Fellowship (age group of 22-27 years) offers 1000 **INSPIRE Fellowships** every year, for carrying out doctoral degree in both basic and applied sciences including engineering, agriculture, veterinary & medicine. About 60% beneficiaries of the INSPIRE fellowship component of INSPIRE Program are women.

**INSPIRE Faculty Scheme**, the second component of **Opportunity for Research Careers** offers assured opportunity every year for 200 in the age group of 27-32 years, through contractual and tenure track positions to doctoral students in both basic and applied sciences including engineering, agriculture, veterinary and medicine areas for pursuing 5 years independent research activities at any

recognized University/ academic Institutions/ Laboratories in the country. About 30% beneficiaries of the INSPIRE Faculty component of INSPIRE Program are women. “

As regards the scholarships/aids/facilities provided to promote involvement of women in Research and Development , UGC stated as follows:-

**University Grants Commission:-**

For the unemployed women, holding Ph.D. degrees and intending to pursue post-doctoral research on full-time basis, the UGC has been providing 100 fellowships per annum with the fellowship amount of Rs.38,800/- p.m. for fresh candidates, and Rs. 46,500/- p.m. after 2 years and contingency amount of Rs 50,000/- p.a. for five years.

Dr. S. Radha Krishnan Post Doctoral Fellowship for Women in Humanities & Social Sciences including languages provide an opportunity to carry out advanced studies and research in Indian Universities & Colleges. The total number of slots available under the Scheme are 200 per year. The fellowship amount is Rs. 38,800/- p.m. for 1st Year, Rs. 40,300/- for 2nd year and Rs. 41,900/- for 3rd Year with contingency amount of Rs. 50,000/- p.a.

Keeping Swami Vivekananda's ideas of women and to achieve and promote girls education, the UGC had introduced Swami Vivekananda Single Girl Child Fellowship for research in Social Sciences during 2014-15. 121 candidates were selected during the reporting year.

The MHRD has also increased the amount of all scholarship / fellowship schemes of the UGC by 55%. This has largely helped women students in pursued of higher education and research.

**1.31** The Committee desired to know regarding the specific scholarships / aids /facilities provided to promote the involvement of women in the field of Health Care, the Ministry of AYUSH responded to the query of the Committee as follows:-

“All the AYUSH Institutes and Research Councils are providing stipend to PG students as per Central Government order and Research Fellowship to Ph.D



scholars. Apart from the stipend, the facilities of Laboratories, all kind of equipments/aids are being provided to scholars free of cost. Training of Trainers (TOT) programs for Anganwadi, multi-purpose health workers and Aasha Workers is also being provided in some Institutes. The scholarships to Research fellows, Ph.D scholars are enhanced as and when the same is done by Indian Council of Medical Research (ICMR)”

**1.32** As regards the specific scholarships/aids/facilities provided to promote the involvement of women in the field of Health Care, the Ministry of Health & Family Welfare responded to the queries of the Committee as follows:-

“The scheme for Human Resource Development for Health Research (HRD scheme) has a separate component specifically for women with break-in-career, with the following provisions:

**(a) Short /Long term training in Indian institutes** followed by fellowship to women who have had a break in their career but having proven aptitude towards health research in front line and emerging areas. The fellowship will be awarded on year to year basis, not exceeding three years, based on the satisfactory progress/ research output. Two categories of the fellowships are given below:

(i) **Category A** -Fellowships for women who hold MD/ MS/MDS/ or PhD in bio-medical sciences and stipend and contingency grant upto Rs 10 lakhs per year.

(ii) **Category B** -Fellowships for women who are MBBS /BDS/ MV Sc. or M.Sc. in bio-medical sciences and having at least two years working experience in bio-medical contingency grant upto Rs 10 lakhs per year.

**(b) Areas identified for fellowship:** Toxicology, Quality Control (QC) and Quality Assurance (QA) Genomics Modern Biology Proteomics Biotechnology Geriatrics Genetics Stem cell research. Drugs Chemistry Clinical Trials Operational Research Good Clinical Practices (GCP) Health Informatics Good laboratory Practices (GLP) Medical Ethics Disease

Modeling Health Economics Environmental Health Any other area recommended by the committee as per National Health Policy/ National Health Goals Mental Health/Clinical Psychology.

Besides, ICMR also encourages women candidates to apply for fellowships. Data on last three years of fellowships offered to **women candidates** under ICMR's fellowship schemes is given below:"

Sl. No.	Name of the ICMR Fellowship/Scholarship	Year 2015-16	Year 2016-17	Year 2017-18
1.	Short Term Studentship (STS)	567	585	489
2.	Junior Research Fellowship (JRF)	55	53	35
3.	Post Doctoral Fellowship	06	10	18

**X. PARTICIPATION OF WOMEN IN RESEARCH & DEVELOPMENT RELATING TO INDIAN MEDICAL SCIENCES SUCH AS AYURVEDA, YOGA, NATUROPATHY, UNANI, SIDDHA & HOMEOPATHY: SCOPE FOR FURTHER PROSPECTS FOR WOMEN.**

**1.33** The Committee desired to know regarding involvement of female researchers in the field of medical sciences in AYUSH in terms of their percentage to the total researchers and efforts taken by the Ministry to provide support for involvement of women in the field of medical research. The Ministry of AYUSH in response to the query of the Committee stated as follows:-

“There are 10 National level institutions engaged in educational activities under Ministry of AYUSH. The data received from these institutions provide a very bright picture as far as education of women is concerned. A summary of the report received from the Institutes are as below:

- (viii) NIS, Chennai has reported that out of 46 PG students during 2017-18, 38 (83%) are females. Further, out of 26 faculty members, 09 are females. All

these 8 female faculties have been encouraged to register themselves for Ph.D programme on part time basis.

- (ix) MDNIY, New Delhi has reported that out of 21 faculty members, 09 are women.
- (x) AIIA, New Delhi: There are 84 female MD scholars at present which is approximately 75% of the total MD students.
- (xi) IPGTRA, Jamnagar: There are a total of 11 females as faculty members and 111 female scholars are involved in the field of medical research.
- (xii) The number of female scholars in NIH, Kolkata is also more than 50%. During 2017-18, out of 35 MD students, 22 are female.
- (xiii) At NIUM, Bangalore, 53.1% MD students are women. 27.7 % faculty members are women.
- (xiv) Three Institutes, i.e, AIIA, New Delhi, NIN, Pune and NIS, Chennai are headed by women.

In addition to above, the Research Councils have also reported good participation of women scholars in their institutes. From the figures received from Research Councils, the number of female researchers is more than 50% of the total researchers. There is almost equal participation of female scientists in international conferences.

Further Ministry of AYUSH ensures that there is no discrimination against the female researchers. Further, the Ministry also ensures that government instructions related to female employees are complied with.

The Committee during the oral evidence of the Ministry of AYUSH were informed that -:

" The very heartening development which has taken place is that we had major recruitments in Homeopathy and Ayurveda recently and almost 50 per cent of the new recruits as research officers were women. So, incrementally, over the next few years, we will have almost half the scientists working in these reserach councils being women"

The Ministry further stated that-:

"Broadly, in terms of both the students seeking admission and the new research scientists who are being recruited, the ratio of women is almost 50 per cent. Then, as far as actual research which is being conducted, a large number of researchers are on women related issues, diseases related to women.."

## **XI. ACHIEVEMENTS IN RESEARCH & DEVELOPMENT RELATING TO WOMEN'S HEALTH AND FURTHER PROSPECTS FOR WOMEN:**

**1.34** The Ministry informed the Committee regarding the details/achievements in research and development in the various area of medical healthcare needs of women in all the system of AYUSH as follows:-

"The research councils under Ministry of AYUSH and the National Institutes are engaged in health care activities relating to women. These include conditions related to pregnancy, anaemia, menstrual cycle, cervical and breast cancer and other common diseases. The details of the action taken by the Research Councils and National Institutes, disease /condition wise are as under:

### **Health pregnancy and healthy progeny:-**

(a) CCRAS – The Council has developed three formulations viz. AYUSH AG Tablet for Promotion of general health of pregnant woman and fetal growth, AYUSH GG tablet for Edema (swelling) during pregnancy, AYUSH AD tablet for prevention of Nausea and Vomiting during pregnancy.

(b) CCRS: - For Healthy pregnancy, Siddha Medicine advocates suitable diet and medicines for the prenatal, natal and post natal care. Amma Magaperru sanjeevi kit has been distributed to all the pregnant women to address and support various issued during the gestational period.

For Healthy progeny supplementation of Sowbakya Suntee lehiyam which promotes Milk secretion in delivered mother. By this, Breast milk secretion is enhanced and low birth weight is prevented. Other than this Thetran kottai lehiyam, Nellikai lehiyam, Annabedhi chenduram and Uraimathirai are formulations used in Siddha for the growth and development of healthy child.

(c) CRYN: - A small booklet containing the guidelines in respect of Yogic practices, Naturopathy treatments, and dietary advice has been prepared for the pregnant women for healthy pregnancy.

(d) NIA: -NIA is running a special Garbhasanskara clinic to give Ayurvedic Antenatal care to the pregnant women.

e) IPGTRA: - The institute has carried out various researches on drugs mentioned in ayurvedic text like Rasayana drugs etc. These are helpful in reducing the chances of minor ailments, incidence of congenital anomalies. It also helps in development of foetus etc.

The Ministry during their Briefing before the Committee also informed as under -:

"In the very recent past, one feasibility study of AYUSH interventions in healthy pregnancy and healthy progeny was conducted in two districts of the country wherein 2,500 pregnant women participated. Approximately, 1800 women completed the study. All of them delivered healthy babies with low mortality of mother and child. They need not to have any modern medical intervention during that feasibility study. this research has already been published"

"Along with this, we have also focused on the anemia in pregnancy and anemia in female. Another interesting area which we did was about the painful menstrual cycle wherein the young adolescents are more sufferers and many of their working days are lost. They also do not attend schools. In that study also, the Haemoglobin level was also raised as well as the painful menstrual cycle was also relieved. The study has been analysed. we want to propagate it to the school health programme."

"In Cervical and breast cancer, recently we have undergone a MoU with the Tata Memorial Hospital. We are going to sign a MoU with the AIIMS today for taking the studies on these problems forward."

"We are taking Homeopathic interventions for managing their anemia.. In addition to that we are working in Osteoporosis as to what can be the homeopathic intervention for the management of osteoporosis"

**1.35.** The Committee desired to know from the Ministry regarding the details/action plan for the dissemination or research related achievement and generation

of awareness in-rural India especially for women by all the research Councils/Institutions of AYUSH, the Ministry inter-alia responded to the queries of the Committee as follows:-

"NIN-Pune conducts Women Component/Empowerment programs where faculties/clinicians, students in the field of yoga and Naturopathy participate. NIN conducts Training for trainers (TOT) programs for Aasha and Anganwadi workers, domestic workers and helps them to train in the management of women issues through Naturopathy and Yoga."

**1.36.** As regards the notable achievements made by women doctors/scientists in the field of medical research the Ministry of Science & Technology replied as follows:-

"The major achievements in which women scientists were involved are:

- i. **TB Diagnostic Initiative:** TruNAT Rif, an indigenous, cost effective, rapid molecular diagnostic kit for TB/MDR-TB has been developed in collaboration with ICMR, DBT and the industry. The feasibility study of TruNAT at 100 microscopy centres at 50 districts across 10 states has been completed. It has been recommended for roll out under RNTCP at Primary Health Centres (DMCs) in a phased manner.
- ii. **Implementation of MIP Vaccine in leprosy contacts under Programme settings:**

Mycobacterium Indicus Pranii (MIP), the world's 1st leprosy vaccine developed in India, is being piloted as preventive vaccine for contacts of patients in Gujarat and Bihar. Also, Nikusht, a real-time monitoring software developed by ICMR has been introduced into the National Leprosy Elimination Programme (NLEP).
- iii. The revised National Ethical Guidelines for Biomedical and Health Research Involving Human Participants and National Ethical Guidelines for Biomedical Research Involving Children have been developed and released.
- iv. Handbook on Intellectual Property Rights & Technology Transfer has been developed and released.
- v. National Guidelines for Stem Cell Research were developed and released.
- vi. **National Anti-Microbial Resistance Surveillance Network (AMRSN)** continued to enable compilation of National Data of AMR at different levels of Health Care. Pfizer one of the global leaders in anti-infectives and medical therapy is committed to combat AMR and has

partnered with ICMR as part of its Corporate Social Responsibility (CSR) activity to achieve the unified goal of reducing AMR.

- vii. **Baseline serosurvey to assess the prevalence of antibodies for dengue, chikungunya and JE:** This serosurvey is ongoing in 15 States of the country.
- viii. **Sentinel surveillance for Congenital Rubella Syndrome (CRS) in India:** The study has been initiated at 6 sites. Aim is assess the impact of Measles Rubella vaccination in India.
- ix. **Hospital based sentinel surveillance for Pneumonia and Invasive Bacterial Diseases (IBD):** The study has been initiated at 6 sites. Aim is to assess the impact of Pneumococcal Conjugate Vaccine (PCV).

1.37. Further, During the Oral Evidence, the representative of ICMR inter-alia stated as follows:-

Out of 32 institutes, seven are currently headed by women Scientists, but the overall proportion of women scientists in ICMR is about 33 percent. In last three years , it has gone up by about four per cent. "

In response to the query of the Committee regarding findings of research work for women in terms of their achievement, during the oral evidence, the representative of ICMR remarked as follows:-

ICMR has done a lot of work on new contraceptive methods and amongst these we have 2 or 3 which are very successful. One of them is Progesterone Vaginal ring. The other is implantable contraceptive. The third is a very novel contraceptive vaccine."

"Another area we are working is Polycystic Ovarian disease , which is becoming more and more common... We have just launched a very big multi-centric study, which is coordinated by AIIMS by the Department of Endocrinology, but will be undertaken in many centres to understand the risk factors and also to try to find some treatment for this condition, which is called PCOS. "

"Very recently Secretary, Health has also launched another programme called Sathiya, which is actually going to provide lot of information to our adolescents, especially, about sexuality and reproductive health. This is a key area, which needs more attention in India because many of our young people do not have access to the right kind of information. the Government of Maharashtra

has taken up the products that were developed as part of research programme and they are using it in their ARSH services. "

## **XII. BUDGETARY ISSUES**

**1.38** The Committee desired to know from the Ministry of Science and Technology regarding the total budgetary allocation and the global data in this regard. Further, the Committee also inquired about the present mechanism of performance audit in terms of utilization of fund in higher Education and Research and Development and the technical methodologies adopted to assess its impact upon women empowerment pertinent to achievement of Sustainable Development Goals. In response to the query of the Committee, the Ministry of Science & Technology stated as under -:

“The Department of Science & Technology (DST) allocated Rs.75 Crore in FY 2018-19 exclusively for all the women-specific programmes under KIRAN (Knowledge Involvement for Research Advancement through Nurturing) Scheme. Besides, woman scientist can also benefit from all other schemes of the Ministry.”

**1.39** In view of the fact that Research and Development requires focus and output orientation, the Committee enquired about the present mechanism of performance audit in terms of utilization of fund in higher Education and Research and Development from the Ministry and the technical methodologies adopted to assess its impact upon women empowerment pertinent to achievement of Sustainable Development Goals. In this context, the Ministry replied as follows-:

“The Ministry further stated that all the projects sanctioned are selected and evaluated by an Expert Committee of Scientists and the same Committee monitors outcomes of the projects based on Annual Reports as well as completion reports whenever available.

All the existing R&D Scheme were evaluated for their effectiveness delivery and outcomes vis-a-vis objectives last year. Based on the evaluations, schemes have



been revised taking into account suggestions of experts as well as other stakeholder.

There are number of ongoing programmes under KIRAN to provide various opportunities to Women Scientists & Technologists viz. research in basic and applied Science, research for S&T interventions at grassroots level for societal benefit, self-employment, skill development, entrepreneurship, etc. New programmes in various sectors of Science & Technology (S&T) are also in pipeline, which to facilitate enhancement of women participation in S&T domain in order to achieve concerned SDGs. Further, a study has been initiated by DST to see the impact of Women-specific programmes in S&T domain of Government of India.”

**1.40** The Committee desired to know from the Ministry of Human Resources Development, the total budgetary allocation for the educational sector and the allocation for primary, secondary and higher education and the percentage of the allocation in all the sectors relating to research and development for empowerment of women. The Ministry of Human Resources Development in response to the query stated as follows:-

“The Budgetary allocation for FY. 2018-19 for both the Departments of Ministry of Human Resource Development (MHRD ), Govt. of India is given below:-

(Rs. in crore)

D/o HE	D/o SE&L	Total(MHRD)
35010.29	50000.00	85010.29

Out of the above allocation, the D/o of SE & L has one 100 % women – specific scheme viz. National scheme for incentive to Girl child for Secondary Education for which the budget allocation in F.Y. 2018-19 is Rs. 255.90 Crore. Similarly, the D/o Higher Education has one 100% women- specific scheme viz. Prime Minister's Girls' Hostel for which the budget allocation in F.Y. 2018-19 is Rs. 30.00 Crore.

Apart from these two schemes, some schemes under both the Departments are, symbolically, under 30% Women specific programmes.

## UGC:-

UGC runs several schemes which provide financial assistance to Higher Educational Institutions for promotion of research activities. These schemes are for the institutions / departments as well as for the individual faculty members including women faculty members working in the institutions.

As on March 31, 2018, a total number of 12448 beneficiaries including women and girl child have been benefitted. The total grant released in the financial year 2017-2018 is Rs.59.49 crores, for 2016-2017 Rs.46.88 crores, for 2015-2016 Rs.43.39 crores and for 2014-2015 Rs.29.13 crores. **Global data for developed, developing and under-developed countries are not available.”**

**1.41** On being asked about the total Budgetary grant in the Health sector on Research and Development to the Ministry and the medical colleges under AYUSH since its creation, and details of fund allocation vis-à-vis its utilization since its inception and its outcome/impact upon women, the Ministry of AYUSH in response to the query of the Committee stated as follows :-

“The Ministry of AYUSH has established five (5) Research Councils namely, Central Council for Research in Ayurvedic Sciences (CCRAS), Central Council for Research in Unani Medicine (CCRUM), Central Council for Research in Homoeopathy (CCRH), Central Council for Research in Yoga & Naturopathy (CCRYN) and Central Council for Research in Siddha.

There are Ten (10) National Institutes established as autonomous organization with the objective to impart education and training namely, Institute for Postgraduate Teaching & Research in Ayurveda (IPGTRA) Jamnagar, National Institute of Ayurveda (NIA) Jaipur, Rashtriya Ayurveda Vidyapeeth (RAV) Delhi, National Institute of Siddha, Chennai (NIS), National Institute of Homeopathy (NIH) Kolkata, National Institute of Unani Medicine (NIUM) Bangalore, Morarji Desai National Institute of Yoga (MDNIY) Delhi, National Institute of Naturopathy (NIN) Pune, North Eastern Institute of Ayurveda & Homoeopathy (NEIAH) Shillong and North Eastern Institute of Folk Medicine (NEIFM) Pasighat.

These are autonomous organizations and fully funded by Government of India. The total budgetary grant and total actual expenditure from 1992-93 to 2017-18 is at **Annexure-VI**.

The impact/ outcome upon women in this regard have not been assessed. However, the participation of females as teachers, researchers and scholars and their contribution to the system has been significant."

**1.42** The Committee enquired from the Ministry regarding the yearly Budgetary grant in the Health sector on Research Development allocated to the Ministry of Health during last 10 years. Details of fund utilization during the last ten years and its outcome/impact upon women, percentage of Budgetary allocation for Research & Development in Health Sector in the developing, underdeveloped and developed countries. The Ministry responded in response to the query of the Committee as follows:-

"The requisite information regarding Budget Estimate (BE)/Revised Estimate (RE) and Actual Expenditure of the Department of Health Research (DHR), including ICMR during the last 10 years is as follows:

Year	<i>(Rs in crores)</i>		
	BE	RE	Actual Expenditure
<b>2008-09</b>	531.75	567.00	564.56
<b>2009-10</b>	606.00	600.00	583.97
<b>2010-11</b>	660.00	690.00	675.02
<b>2011-12</b>	771.00	770.26	746.42
<b>2012-13</b>	908.00	725.00	720.44
<b>2013-14</b>	1,008.00	880.56	874.08
<b>2014-15</b>	1,017.67	932.00	910.78
<b>2015-16</b>	1,018.17	1,012.51	992.77
<b>2016-17</b>	1,144.80	1,344.80	1,323.60
<b>2017-18</b>	1,500.00	1,743.39	1,731.68

As regards, the percentage of budgetary allocation for Research & Development in Health Sector, it may be stated that as against the BE allocation of Rs.77,069 crores for the Health & Family Welfare, the allocation for Department of Health Research is Rs.1800 crores, which works out to about 0.023% only. No such

comparative data about underdeveloped and developed countries is available with the DHR and ICMR.

### **XIII. MISCELLANEOUS MINOR ISSUES:**

#### **(i) Need for strengthening the prospects of Researchers with special needs including Women researchers with special needs:**

**1.43** Ministry of HRD while dwelling upon the initiatives taken by the Ministry to ensure that Women Researchers with special needs are not sidelined but involved and their creative capacities harnessed in the Research and Development Sector responded in their written replies as follows:-

“UGC has taken following steps to ensure that Women Researchers with special needs are not sidelined but involved and their creative capacities harnessed in the Research and Development Sector:

UGC has given support for eight women universities exclusively.

UGC has been providing financial assistance for conducting special classes outside regular timetable to those students who need remedial coaching for NET SET examination. This intervention is aimed for the welfare of SC/ST/OBC/Minority Communities and includes women too.

- With a view to promoting M.Phil and Ph.D education for women, women candidates are allowed a relaxation of one year for M.Phil and two years for Ph.D. In addition, they are provided maternity leave / child care leave once in the duration of M.Phil and Ph.D for upto 240 days.
- In this context, UGC runs following scholarships/fellowships which are given exclusively for the woman students.
  - a. Post graduate Indira Gandhi Scholarship for Single Girl Child
  - b. Post Doctoral Fellowship for Women
  - c. Swami Vivekananda Single Girl Child Fellowship for Research

The amount of these scholarships/fellowships has been increased by 55% in December, 2014.”

**(ii) Need for safeguarding women especially harassment related issues in institutions of Higher Education and R & D :**

**1.44.** The Committee desired to know from the Ministry about steps taken to ensure that gender based violence leading to detriment for women’s access to Higher Education, Research and Development achieved. In response to the query of the Committee, the Ministry of HRD responded as follows:-

“UGC has notified, UGC (Prevention, Prohibition and redressal of sexual harassment of women employees and students in higher educational institutions) regulation 2015 on the recommendations of ‘Saksham Report’ submitted by Task Force set up by the UGC.

Further, to look into the grievances of women employees at work place, the UGC has an Internal Committee on “Sexual Harassment of Women at Work Place”.

Various steps have been taken for wide publicity of the Committee. Notices have been put up at the main reception of the UGC Headquarters and Regional Offices. Constitution of the Committee along with telephone numbers have been uploaded on UGC website for the general awareness of public.

UGC notified a new UGC (Institutions Deemed to be Universities) Regulations, 2016 in supersession to the UGC Regulation, 2010 in which some special provisions have been introduced. As per the UGC Regulations, 2016, every Institution Deemed to be University is made mandatory to have the following special provisions keeping in view the outreach of women to Higher Education, Research & Development:-

- a. Anti Ragging Cell
- b. Anti discrimination Cell
- c. Gender Sensitization Cell
- d. Internal Complaints Committee for prevention of Sexual Harassment

e. Barrier Free access in all places

**1.45** Further, when the Committee enquired about the specific cases of sexual harassment of women researchers/students in the various Institution of Central/State Governments and Private Universities and action in the matter, the Ministry stated that:-

“Two matters were brought to the notice of UGC Internal Complaint Committee on “Sexual Harassment of Women at Work Place” Inquiry into both the matters has been completed and reports have been submitted.”

**1.46** As regard the steps taken by the Administration of the institutes/colleges to mitigate the possibility of sexual harassment in the institutions, the Ministry stated as follows:-

“University Grants Commission (Prevention, Prohibition and Redressal of Sexual Harassment of Women Employees and Students in Higher Educational Institutions) Regulations, 2015 to prevent harassment of women in institutions of higher learning has been notified.”

## **PART II**

### **OBSERVATIONS/RECOMMENDATIONS OF THE COMMITTEE**

#### ***Introduction:***

**Women have proved to be productive economic actors, prudent decision maker, visionary leaders, compassionate volunteers and constructive peacekeepers. And many women are expanding their horizons. Access to employment opportunities and to finance has opened opportunities for many poor women. Society is gradually accepting and appreciating what women can achieve and contribute. Norms, values and legal frameworks are evolving. While in the 1990s very few countries legally protected women from violence, today 127 do. Thus, women have become active in areas where they were not traditionally active, and they have excelled in every aspect of life where they are engaged.**

**The most important and urgent reform needed in education is to transform it, to endeavour to relate it to the life, needs and aspirations of the people and thereby make it the powerful instrument of social, economic and cultural transformation necessary for the realization of the national goals. For this purpose, education should be developed so as to increase**

productivity, achieve social and national integration, accelerate the process of modernization and cultivate social, moral and spiritual values.

## ***2. Equality, Inclusion and Access***

### ***(i) Access to Research and Development***

The Committee believe that equality, inclusion and access are the three pillars which uphold the spirit of education and bridge the gulf between the haves and the have-nots and create an inclusive society. The Committee are happy to note that the Ministry of Science and Technology have ensured that a sizable number of women belonging to BPL/Backward districts/Rural districts/Terrorist and Maoist Infected Area are getting benefit from “science and technology for women” programme. The Committee are further glad to note that women get training of various techniques and processes for income generation which enhance their livelihood. Further, the women scientists scheme of KIRAN(Knowledge Involvement in Research Advancement through Nurturing) has been able to cater to the needs of a significant number of women belonging to backward and terrorism and maoist infested areas, is a positive and significant fact to take note of.

The Committee find that the reply of the Ministry of Science and Technology with regard to the issue of Equality, Inclusion and Access related challenges in imparting education in the secondary level and this initial handicap is linked with the issue of women participation in higher Education, Research and Development in the country and the context of the regional diversities with respect to women’s participation in higher Education, Research and Development has not been replied. The Committee are of the view that being gender neutral would only serve the purpose when there is equality in status and opportunities in terms of financial, social, cultural and educational barriers. Women being a weaker section of the society suffer from the various stereotypes and prejudices which requires an extra effort guided by compassion, empathy and toleration to ensure their equal participation in R&D activities. In its efforts to ensure equality, inclusion and



access, the Committee appreciate the fact that the Ministry conducts 'Sensitization' workshops to create awareness among women about various women-specific programmes and also to motivate them to apply under appropriate programmes to get support for research as well as other S&T based activities. DST facilitates travel of aspirant women to attend the Expert Committee Meetings and selected Women get fellowships and/or research project grant based on their qualifications and experience. These practices gives the beneficiaries financial freedom and minimize financial burden of family on women's higher education. DST has also initiated Vigyan Jyoti programme which entails counseling of the family members (parents) of the girl child.

The Committee note that efforts in engaging women in research and development is laudable but lack of employment opportunities continue to dampen the spirit towards research and development. Further, the involvement of Civil society and NGOs would help in community sensitization and breaking the social prejudices towards women and create positive attitudes towards R&D. The Committee strongly recommend that in view of the demographic dividend which India continues to enjoy, the integration of Research with employability will be the much needed thrust to engage women in Research and Development activity.

The Committee note that more than 4000 women got financial support under 3 components of women scientists scheme (WOS-A,B and C) and that almost one-third of the women in WOS scheme have regular jobs. The Committee recommend that serious steps be taken to ensure that employability of researchers should be increased to ensure motivation, financial empowerment etc.

#### **(ii) Access to Higher Education**

The Committee believe that education is an enlightening force and fosters the inner spirit of inquiry which is ennobling force, which is also a significant method of bringing back those sections of society which are beyond the social mainstream. The Committee believe that the Ministry should emphatically and at the earliest gather such data, analyze and work upon the findings to ensure that such aforesaid sections of the society are not left out. One of the methods, to engage the stake-holders is to develop a positive value-system towards the

existing system of governance and the percolation of benefits emanating out of Higher Education with the bruised social psyche of people living in such areas.

The Committee are glad to note about the efforts made by the Rashtriya Uchchatar Shiksha Abhiyan( RUSA) as an overarching scheme, operated in mission mode for funding the state universities and colleges in order to achieve the aims of equity, access and excellence. The Committee have been informed that till date central assistance for creation of universities through a upgradation of Rama Devi Women Autonomous College, Bhubaneshwar and Jamshedpur Women's College into two universities has been approved by the project approval board (PAB) of RUSA. The Committee would recommend that the Ministry should actively persuade the various State Governments in opening up of various universities for equity, access and excellence and the number of universities opened should increase in a time bound manner.

The Committee are glad to note that there has been nomination of women in the IIT Council and a decision regarding increase of female enrolment in B.Tech programmes of IITs from the current 8% to 14% in 2018-19 to 17% in 2019-20 and 20% in 2020-21 by creating supernumerary seats in the same manner as for the sanctioned seats which would lead to improvement of gender balance in IITs.

The Committee desire that the percentage of reservation for girls may be increased suitably to ensure that even in the face of any drop outs/ discontinuance, the annual pass out rate for women graduates increase substantially. The Committee feel that this would lead to greater representation of women in Research and Development at a later stage which would imbue a gender sensitive approach towards R&D activities.

The Committee are glad to note the effort taken by Indira Gandhi National Open University (IGNOU) in terms of their conscious efforts to reach out to women learners in remote and rural areas through special study centres for women which is 35 in number at present, establishment of the schools of gender and development studies in 2007 focusing upon achievement of gender justice and equity, creation of women and gender resource space and gender sensitization initiative having a multi-pronged spectrum of interventions including course/module/package design, development and delivery, research studies and skill development through gender training. The Committee recommend that the

Ministry must actively implement efforts of this kind made by IGNOU in other distance-learning universities so that the every nook and corner of the country is reached with the enlightening forces of education and quest for women empowerment is able to achieve its cherished goals in tune with our constitutional aspirations. The Committee recommend that all the institutions under the Ministry of Science and Technology, Ministry of HRD, Ministry of Health and Family Welfare and Ministry of AYUSH work towards creating gender balance and intimate the Committee about efforts taken in the matter.

### ***3. Women Technology Parks***

The Committee have been informed by Ministry of Science and Technology that more than 30 women technology parks have been supported in different parts of the country which provide one-step platform to address location specific or need based challenges faced by women through appropriate technologies. The Committee believe that Women Technology Park (WTP) set up with the help of government agencies would be a boon for the rural poor. Exposing women to latest technology and entrepreneurial ideas involving demonstration and dissemination of rural technologies related to weaving, metal art ware, banana fibre extraction, construction and habitat services, agro and forest-based processing technologies can be a economic and social empowering measure catering to the dynamic needs of women empowerment, grand goal of our constitutional philosophy. The Committee recommend that more Women Technology Parks may be set-up in diversified sectors catering to regional needs and spread across the country to empower women and make them financially self sustainable. Demonstration of feasible projects and transfer of proven technologies to the society would improve the livelihood and quality of life of rural women by imparting necessary entrepreneurial skills. The Committee would desire that the Ministry of Science & Technology(DST&DBT) may work in tandem with the Skill Development Ministry and a multi-faceted approach may be developed to foster rural employment with self sufficiency and technological inclusion. The Committee recommend that in tune with the goals of the National Skill Development Programme of the Government of India there should be a

larger integration of the goals and outcomes of the DST and Skill Development Ministry.

#### ***4. Training Programmes for Women Scientists***

The Committee have been informed by the Ministry of Science & Technology that Training Programmes for Women Scientists are being conducted to foster Responsiveness, Commitment, Awareness of technological, economic and social developments and value of Accountability. The Committee have noted that as per data pertaining to training programmes conducted under Women Component from 2012 to 2017 has remained the same. In fact, the Committee are dismayed to find that the number of training programme in Year 2016-17 has in fact dipped to nine. Further, the number of scientists trained has dipped from a high of 271 in 2011-12 to a low of 180 in 2016-17. The Committee find it a perplexing situation because with the growth of scientific manpower the trainings must also grow, but to the utter dismay things are going the other way. Further, the conduct / behavioural change of the employees must be measured to ensure that trainings have direct relationship with work related outcomes and that they are not in isolation. This would embolden the women work force and help her gain recognition and growth in their field of activity. The Committee believe that outcomes on scientific criteria for the trainings must be laid out and the effectiveness of training programmes in tune with the expected outcomes be formalized and the Committee may be informed of the action taken in the matter. The Committee recommend that the Ministry should take the issue seriously and enhance the imparting of training to women in Research and Development in the country.

#### ***5. Post-doctoral Fellowship (PDF) For Women***

The Ministry of Science & Technology have informed the Committee that the Science and Engineering Research Board (SERB), a Statutory body of the Department of Science and Technology is implementing a National Post-doctoral Fellowship Scheme (NPDF) to identify motivated young

researchers and provide them support for doing research in frontier areas of science and engineering. The Committee have been further informed that the Scheme has been designed to accommodate more women researchers by giving them five years of age relaxation for applying under the Scheme. More than 850 (36.6%) women scientists have been supported so far. Further, the Ministry have informed the Committee that Fifteen Pilot Projects have been sanctioned to premier academic institutes across the country under Vigyan Jyoti and all are in the process of implementation. In this context, the Committee strongly recommend that the number of Post-doctoral Fellowships must be increased and greater industry interface be ensured so that the Research and Development becomes a financially viable exercise too and this would further fuel the momentum of Women Empowerment.

#### ***6. Science & Technology Policy - 2013: the prospects for women***

The Committee note that attracting talented and bright minds towards careers in science, research and innovation is one of the main objectives of the STI Policy -2013. This policy includes Innovation for inclusive growth implying ensuring access, availability and affordability of solutions to as large a population as possible, Establishing world class infrastructure for R&D for gaining global leadership in some select frontier areas of science, positioning India among the top five global scientific powers by 2020, linking contributions of science, research and innovation system with the inclusive economic growth agenda and combining priorities of excellence and relevance, creating an environment for enhanced Private Sector Participation in R&D, Enabling conversion of R&D outputs into societal and commercial applications by replicating hitherto successful models as well as establishing of new PPP structures, triggering changes in the mindset and value systems to recognize, respect and reward performances which create wealth from S&T derived knowledge.

The Committee believe that the goals are laudable and a good roadmap for developing the country as a scientific power is essential so that

bright minds are attracted towards science and technology. Vacancy data in various organizations as suggested by the Ministry about their own initiatives are not very encouraging. Therefore the Committee recommend the Ministry to ensure better Industry interface, which is required so that number of unemployed persons are reduced. Further, the schemes under a single umbrella scheme-KIRAN- 2014, Women Scientist Scheme-A (WOS-A) for basic and applied research in five streams may be reviewed and broadened so that a greater number of Researchers are included in the scheme. The Committee desire that the Ministry of Science & Technology and Ministry of Human Resources Development intimate about the action taken in the matter at the earliest.

#### ***7. Representation of Women in Research Organisations***

The Committee note that out of a total strength of 12342 employees in CSIR only 2148 are women. Of the total of 3513 scientists in the CSIR, 645 are women scientists as of December 2017. The Committee believe that it is matter of concern that only 17.40 percent of the total employees are women, and only 18.36 per cent of the total scientists are women. Gender equality in research has a vibrant impact on the redressal of women centric needs and ensuring motivation of the women in Research and Development. In order to ensure this the Committee recommend the Ministry to set up a committee to enquire into the reasons of lop sided growth and taking appropriate measures for engaging of women scientists in the research establishment in the country. The Committee believe that many of the women who pursue post-graduate academic course in science stream do not end up in R&D or in education sector due to many social and family obligations. This needs to be addressed by a flexible approach. The Committee recommend that the ministry conduct studies/surveys relating to the issue of low representation of women in various research establishments of the country to address them in a time bound manner about the efforts taken to tackle the issue of

under representation of women in research and scientific establishments under the Ministries of Science and Technology and Human Resources Development.

#### **8. *Scholarships/aids/facilities for women***

The Committee are glad to note that various central sector schemes of scholarship for college and university students, Pragati Scholarship Scheme, Post-doctoral Fellowship to Women Candidates, Post-Graduate Indira Gandhi Scholarship Scheme for Single Girl Child, Swami Vivekanand Single Girl Child fellowship for research in social sciences etc. The Committee were informed that for the unemployed women holding P.hD degrees and intending to pursue post-doctoral research on full-time basis, the UGC has been providing 100 fellowships per annum with the fellowship amount of Rs. 38000 per month for fresh candidates and Rs. 46500 per month after 2 years and contingency amount of Rs. 50000 for 5 years. It was also informed that the total number of slots available under the Dr. S. Radhakrishnan Post-doctoral Fellowship for Women in Humanities and Social Sciences is 200 per year. Further, the Committee are glad to note that the UGC has introduced Swami Vivekanand Single Girl Child Fellowship for research in Social Sciences during 2014-15 and 121 candidates were selected during the reporting year. The Committee also desire that in order to ensure that there is a wide presence of women, greater financial support is required so that creative capacities of women are manifested in the research arena. The Committee recommend that the number of slots for scholarships under all the above schemes should be increased suitably by the Ministry of Human Resources Development. The Committee desire that the Ministry inform about the action taken in the matter regarding increase in the number of scholarships under various schemes of the UGC and the Central Government.

#### **9. *Participation of Women in Research & Development relating to Indian Medical Sciences such as Ayurveda, Yoga, Naturopathy, Unani, Siddha &***

***Homeopathy and Scope for further prospects for Women in R & D relating to such sciences.***

**(i) Participation of Women in R&D relating to AYUSH**

The Committee note that participation of women in Research and Development relating to Indian Medical Sciences such as Ayurveda, Yoga, Naturopathy, Unani, Siddha and Homeopathy is very important as it is one of the alternative and traditional system of medicine of the country. The Committee are glad to be informed that National Institute of Siddha, (NIS)Chennai has reported that out of 46 PG students during 2017-18, 38 (83%) are women. Further, out of 26 faculty members, nine are women. Morarji Desai National Institute of Yoga (MDNIY), New Delhi has reported that out of 21 faculty members, 09 are women. In All India Institute of Ayurveda (AIIA), New Delhi there are 84 female MD scholars at present which is approximately 75% of the total MD students. In Institute for Postgraduate Teaching & Research in Ayurveda (IPGTRA), Jamnagar there are a total of 11 females as faculty members and 111 female scholars are involved in the field of medical research. During 2017-18 in National Institute of Homeopathy (NIH), Kolkata out of 35 MD students, 22 are women which is more than 50 per cent. At National Institute of Unani Medicine (NIUM), Bangalore, 53.1% MD students are women and 27.7 % faculty members are women. The Committee are further glad to note that three Institutes, i.e, AIIA, New Delhi, National Institute of Naturopathy (NIN), Pune and NIS, Chennai are headed by women and in addition to above, the Research Councils have also reported good participation of women scholars in their institutes. The Committee note that the number of female researchers is more than 50% of the total researchers in Research Councils. There is almost equal participation of female scientists in international conferences. The Committee are happy to note that the Ministry of AYUSH ensures that there is no discrimination against the female researchers and ensures that government instructions related to female employees are complied. The Committee recommend that current participation of women in various systems of medicines under AYUSH should be sustained and more



proactive steps be taken by the Ministry to further increase the prospects for women.

**(ii) Participation of Women in R&D relating to Health and Family Welfare**

The Committee desired to know from the Ministry of Health and Family Welfare regarding details of female researchers to the total researchers and efforts to provide support for involvement for women in the field of medical research. However, the Committee note that no such central and country-wide data has been compiled by the Department of Health or Indian Council of Medical Research (ICMR) since a large number of scientists including women scientists are engaged in the Bio-medical research at various medical colleges, research institutes through their internal funding or grants from several agencies/organizations. The Committee believe that in an age of information revolution, various database of empowerment, inclusion and equity is the cornerstone for effective formulation of policies for widening the participation of women in the development of the country. The Committee recommend that a centralized data be created by the Ministry of Health regarding involvement of female researchers in the field of medical sciences and research.

The Committee note that in the National Institute of Epidemiology, Chennai only three women scientists are present out a total number of 18 scientists, the number for National Institute of Medical Statistics, Delhi is 3 out of 16, 0 out of 5 in National Animal Resource Facility for Bio-medical research, Hyderabad, 1 out of 21 in National Institute for Research in Tribal Health, Jabalpur, 0 out of 15 in Rajendra Memorial Research Institute of Medical Sciences, Patna, 0 out of 6 in Regional Medical Research Centre, Port Blair, 3 out of 16 in National Jalma Institute of Leprosy and other Myco-Bacterial diseases (NJILMOD) Agra. Further, the total percentage of women scientists in ICMR Institutes is 33%. The Committee are further appalled to note that the information furnished by ICMR institutes regarding women researchers speaks of under-representation of women in various institutes. The Committee recommend that a detailed policy should be framed and implemented in a manner so that the regional disparity and under-

representation of women in the field of Research and Development is taken care of. In States where the socio-cultural barriers are against the involvement of women in higher education, research and development, more focus should be given so that the cultural norms which act against participation of women in higher education, research and development should be addressed and women break free from the shackles of stereotypes and prejudices which work against them. The Committee further recommend to the Ministry of Health and Family Welfare to find feasibility of appointment of women researchers in under represented and backward regions so that they become change agents and create a climate of participation and inclusion in the field of higher education research and development so that the grand constitutional vision of women empowerment is achieved.

***10. Achievement in Research and Development relating to Women's Health and scope for further prospects for Women in R & D relating to Health.***

(i)The Committee believe that Women Health is the most vital ingredient for achieving of women empowerment as envisaged in the constitutional aspirations of equality for women. The Committee note that the Ministry of AYUSH have developed various drugs for dealing with women health. It has also been informed that adequate research on women related diseases have been done and attempt has been made to provide healthcare to women through institutes under research council, national institutes and through its centrally sponsored schemes of National AYUSH Mission. The Committee are glad to know that there are 2 Homeopathic Medical Colleges running in the country through respective State governments which are exclusively for women. In this context, the Committee recommend that performance appraisal and actual outcome be conducted to ensure that the grand vision of the AYUSH is translated into reality. The Committee also recommend the Ministry of AYUSH to inform about the findings in the matter and to take greater steps to ensure more research which are cost-effective

and women disease-centric be conducted without losing focus on other areas of research.

(ii) The Committee note that cancer incidents among women in India is estimated to increase from 110 per 1 lakh population to 190-260 per 1 lakh population by 2025. Across States there is a deterioration of key risk factors that contribute to cancer incidents among women and India is witnessing significantly adverse mortality rates for women specific cancers with cervical and breast cancer mortality rates being 1.6 to 1.7 times higher than mortality due to maternal causes. The challenge of high incidence is further compounded by late detection which has an adverse impact on cost of care and mortality. The Committee are happy to hear from the Ministry that screening through adoption of established screening methods for cervical and oral cancers is being done. The Committee are glad to note about the path breaking research findings in new devices for detection of breast lumps in early stages and visual device with a light source (AV Maganivisualizer) for easy and better visualization of the uterine cervix as well as the oral cavity be put to commercial production so that it is utilized and health concerns of the maximum female population of the country can be taken care of. The Committee note that the states of Delhi and Punjab have been pioneers in rolling out of Human Pappiloma Virus (HPV) Vaccination. The Committee recommend for replicating the efforts of the States of Delhi and Punjab in rolling out of the HPV Vaccination Programme for girls aged 9 to 13 years in all other States as well. The Committee further recommend that the Ministry of Health and Family Welfare must collaborate with other State governments for effective implementation of this vaccination programme.

#### **11. *Budgetary Issues***

The Committee note that all the projects sanctioned by the Ministry of Science and Technology are evaluated by an Expert Committee of Scientists and the said Committee monitors outcomes of the projects based on Annual Reports as well as completion reports whenever available.

The Committee further note that all the existing R&D Schemes were evaluated for their effectiveness, delivery and outcomes vis-a-vis objectives last year and based on the evaluations, schemes have been revised taking into account suggestions of experts as well as other stakeholders. The Committee believe that Research Project Evaluation Criteria are seminal for the achievement of outcomes of Research and Development.

The Committee are further glad to be informed from the Ministry of Human Resources Development that the Department of School Education & Literacy has 100 % women – specific scheme viz. National scheme for incentive to Girl child for Secondary Education for which the budget allocation in F.Y. 2018-19 is Rs. 255.90 Crore. Similarly, the Department of Higher Education has also 100% women- specific scheme viz. Prime Minister's Girls' Hostel for which the budget allocation in F.Y. 2018-19 is Rs. 30.00 Crore. Further, the Committee note that there are other schemes which are under 30% Women specific programmes. The Committee recommend that the composition of such schemes should be strengthened further to augment capacity building in women for furthering Research and development activities.

While appreciating that the actual expenditure of the Department of Health Research including Indian Council of Medical Research (ICMR) has been consistently growing for the last 10 years, the Committee are disheartened to note that the allocation of budget on health research works out to be 2.3 per cent only, i.e, allocation of Rs. 1800 crore out of the total allocation of Rs. 77,069 crores for the Ministry of Health and Family Welfare. As such, the Committee recommend that allocation on health research may suitably be enhanced so that the R&D on health sector do not suffer for want of money thereby furthering the prospects of women participation in Research and Development activities of Health and Family Welfare.

The Committee note under Ministry of AYUSH that there is a wide gap between grants given to Central Council for research in Ayurvedic Sciences

(1678.39 crores) and Central Council for Research in Yoga and Naturopathy (192.22 crores). Further the grants for National Institutes in North-Eastern Regions like North-Eastern Institute of Ayurveda and Homeopathy, Shillong and North-Eastern Institute of AYUSH/Folk medicine, Pasighat is very low *i.e*, Rs.82.38 crores and Rs.34.17 crores respectively. The Committee believe that the financial and psycho-social burden of diseases in the country can be tackled by a holistic approach to integrate research practices of various healing systems. Further, the Committee recommend that in the context of budgetary allocations, the issue of uniform regional development and access to healthcare should be given prime consideration. The Committee recommend that the Ministry of AYUSH take up the issue of increased allocation of budgetary resources for Health Research with Ministry of Finance.

## ***12. Miscellaneous issues***

### ***(i) Need for strengthening the prospects of Women researchers with special needs:***

The Committee note that the initiatives are needed to ensure that women researchers with special needs are encouraged and their creative capabilities harnessed in the research and development sector. The Committee note that no specific programmes for women researchers with special needs has been created. The Committee further desired to know about the best international practices with respect to women researchers with special needs to be suitably incorporated in the KIRAN programme. The Committee are surprised to note that in an age of growing movement towards equality and exercise of compassion towards the weaker and the vulnerable sections of the society, the Ministry is lacking in an emphatic approach towards these sections of society. Moreover, in the backdrop of the fact that global interconnectedness and emulation of the best international practices to involve women facing vulnerability and have opportunity to manifest the creative potential in the women , the Committee firmly recommend that in all the future Research Opportunity, women with

special needs must be duly considered and empowerment of women by the creative and potent tool of Research and Development be bolstered to create an enabling environment for every kind of women to involve in the Research and Development opportunities. The Committee also recommend that the Ministry of Science and Technology, Ministry of HRD, Ministry of Health and Family Welfare and Ministry of AYUSH conduct a nationwide survey based on international benchmarks to ascertain the presence of a disabled friendly environment in research establishments under their jurisdiction. The Committee would like to be apprised of the action taken in the matter by all the ministries at the earliest.

*(ii) Need for safeguarding women from harassment related issues in institutions of Higher Education and R & D.*

The Committee are glad to note from the Ministry that Department of Science and Technology has not received any complaints or grievance about gender based violence and sexual harassment from the beneficiaries of its programmes in research and development under the KIRAN Scheme. Further, the Committee were informed that 4 cases of sexual harassment were reported during the last five years and 5 cases were reported in respect of DBT institutions. The Committee were also informed that internal complaints committee has been set up by the autonomous institutes as per the 'Sexual harassment of women at workplace, 2013 Act. Based upon the reply of the Ministry, the Committee are of the view that possibility of harassment of women at workplace in both the higher education and research and development sector is always present. In view of the fact that women researchers work in a fearless environment and are able to actualize their potential, the Committee recommend that widest possible dissemination of provisions of the law pertaining to sexual harassment of women at workplace should be done. An online grievance redressal mechanism including a toll free number and acceptance of complaints should be instituted without fail. In the course of investigation of the complaints regarding harassment made by the women

researchers/scholars/students, they must be given ample protections by the authorities concerned. The Committee also recommend that the various institutions under the Ministry of Science and Technology, Ministry of HRD, Ministry of Health and Family Welfare and Ministry of AYUSH should give wide publicity regarding the provisions of the Act so that the prospects for women in the field of research and development grow in a healthy and secure atmosphere. The Committee would like to be informed about the action taken in the matter by the various ministries concerned.

NEW DELHI  
12 February, 2019  
23Magha, 1940 (Saka)

BIJOYA CHAKRAVARTY,  
Chairperson,  
Committee on Empowerment of Women

# **ANNEXURES**

## **AND**

# **APPENDICES**

## Annexure-1

### FULL TIME EQUIVALENT OF WOMEN EMPLOYED IN RESEARCH AND DEVELOPMENT ESTABLISHMENTS AS ON 01.04.2015

Name of Establishment	Personal Engaged In			(Number)
	R&D Activities	Auxiliary Activities	Administrative Activities	Total
	(1)	(2)	(3)	(1+2+3)
<b>A. INSTITUTIONAL SECTOR</b>				
Major Scientific Agencies	8313	4686	7988	<b>20987</b>
Central Government				
Ministries/Departments	1976	3428	4173	<b>9577</b>
State Governments	3024	2144	6218	<b>11386</b>
Total Institutional Sector (A)	13313	10258	18379	<b>41950</b>
<b>B. Higher Education</b>	<b>14700</b>	...	...	<b>14700</b>
<b>C. INDUSTRIAL SECTOR</b>				
Public Sector Including Joint Sector	1082	253	260	<b>1584</b>
Private Sector	7089	2014	1402	<b>10505</b>
SIRO	3205	3119	2632	<b>8956</b>
Total Industrial Sector (B)	11376	5386	4294	<b>21056</b>
<b>Total (A+B+C)</b>	<b>39389</b>	<b>15644</b>	<b>22673</b>	<b>77706</b>

Source : Data collected and compiled by DST.



**Autonomous institutes under the Department of Science & Technology engaged in the activity of Scientific Research & Development**

- 1 Agharkar Research Institute, Pune
- 2 Aryabhata Research Institute of Observational Sciences, Nainital
- 3 BirbalSahni Institute of Palaeosciences, Lucknow
- 4 Bose Institute, Kolkata
- 5 Centre for Nano and Soft Matter Science, Bengaluru
- 6 Indian Association for the Cultivation of Science, Kolkata
- 7 Indian Institute of Astrophysics, Bengaluru
- 8 Indian Institute of Geomagnetism, Navi Mumbai
- 9 Institute of Nano Science & Technology, Mohali
- 10 Institute of Advanced Study in Science and Technology, Guwahati
- 11 International Advanced Research Centre for Powder Metallurgy and New Materials, Hyderabad
- 12 Jawaharlal Nehru Centre for Advanced Scientific Research, Bengaluru
- 13 Raman Research Institute, Bengaluru
- 14 S.N. Bose National Centre for Basic Sciences, Kolkata
- 15 SreeChitraTirunal Institute for Medical Sciences and Technology, Thiruvananthapuram
- 16 Wadia Institute of Himalayan Geology, Dehradun.

**Autonomous Professional Bodies under the Department of Science & Technology**

1. Indian Science Congress Association, Kolkata
2. Indian National Science Academy, New Delhi
3. Indian Academy of Sciences, Bengaluru
4. Indian National Academy of Engineering, Gurgaon, Haryana
5. The National Academy of Sciences-India, Allahabad

**Autonomous S&T Service Organizations Providers under the Department of Science & Technology**

1. Technology Information, Forecasting & Assessment Council, New Delhi
2. Science & Engineering Research Board, New Delhi
3. VigyanPrasar, Noida, UP
4. National Innovation Foundation, Ahmedabad
5. North East Centre for Technology Application and Research, New Delhi

## ANNEXURE-III

S.No		Brief description of contribution of Women Scientist in last 5 years
1		The Government of India has bestowed the National Women Bioscience Award to Dr Debasree Dutta of the Institute in recognition of the outstanding scientific performance of the Scientist. Another scientist, Dr. Priya Srinivas was the recipient of prestigious ICMR Prem Nath Wahi Award for excellent performance in Cytology and Cancer Prevention. The Publications etc. of RGCB Scientists in general, and the women scientists, in particular, have always been remarkable. RGCB woman scientists have in credit a total of 65 publications in National/International reputed journals and 4 patents.
2		Women scientists of the Institute have contributed to 119 research articles in reputed international journals. 10 patents have been granted to them and another 5 patent applications have been filed . 15 students have successfully completed their Ph.D.'s and another 35 Ph.D. scholars are at present pursuing their Ph.D. under the supervision of these women scientists. The women scientists in the Institute have got funding in 35 extramural research projects from various Government agencies. In recognition of their outstanding contribution, 08 awards have been conferred to the women scientists of the Institute including National Women Young Bio-Scientist Award, SERB Early Career Research Award, National Women's Bioscientists Award, Tata Innovation Fellowship etc. The women scientists of the Institute have been elected as Fellows of National Science Academies of India (IAS, NASI, NAAS). & are serving on National and International Scientific Societies (PSI, HUPO, AOAPO).
3		1. Women Scientists in the Institute work on varied research areas like mucosal immune responses ( <b>Dr Anna George</b> ), contributions to Science Setu Programme of NII faculty interact with students and teachers of the partner colleges ( <b>Dr Ankita Varshney</b> ), studies of immunotherapeutic potential of Mycobacterium indicus pranii (MIP) and the underlying mechanisms in animal models of tuberculosis and tumor ( <b>Dr Sangeeta Bhaskar</b> ), role of carbohydrates in modulating the structure and function of glycopeptides ( <b>Dr Kanwaljeet Kaur</b> ), role of testosterone on glucose homeostasis during type II diabetes which has societal relevance ( <b>Dr Sarika Gupta</b> ), studies in roles of CTCF in organising chromatin of TCR $\beta$ locus ( <b>Dr Madhulika Srivastava</b> ). contributions to the structural studies on proteins, dynamics and ligand interactions using NMR has helped significantly in identifying the residues that interact with the ligand ( <b>Dr Monica Sundd- Dr. Vidya Raghunathan</b> ).
4		Women scientists in THSTI in the last five years have received 35 extramural grants, published 40 scientific papers, filed 17 patents and licensed 3 technologies.

5	Women scientists of the Institute have mainly focussed on biomedical problems afflicting women and children. They have focussed on breast cancer and cervical cancer prevention and identification of disease subgroups with variable responses to treatment.
6	The only 02 women faculty in the institute have in a very short time got extra mural funding of worth Rs 239 Lakhs, Published about 09 paper in reputed journals, are supervising about 12 students in the Doctoral Program and have delivered 17 lectures/talks in national and international conferences, symposiums
7	<p>1) Publications (2013-18): 108</p> <p>2) Patents (filed / granted) with women faculty as an inventor (2013-18): 15</p> <p>3) No. of students under the guidance of women faculty who were awarded the Ph.D. degree (2012-17): 24</p> <p>4) Teaching, training and outreach by women faculty (2012-17): 113 (Courses taught / trainings conducted / talks delivered for school / college / university students, &amp; other outreach activities organized)</p>
8	Some of our woman scientists have grants/fellowships, which are specifically awarded to woman scientist in our country. Dr. Nandini Chatterjee Singh has National Woman Bioscientist Award-2012. Dr Sayali C. Ranade had DST-Wonman Scientist award
9	<p><b>Dr. Soma Chattopadhyay</b> has made important contributions to the areas of Molecular virology: Her researched Antibodies are now commercialized and will be shortly available in the market.</p> <p><b>Dr. Sarita Jena</b> being the incharge of the Animal house facility of the Institute has played a vital role in facilitating research related to pancreatic cancer, oral cancer, breast cancer, malaria and other infectious diseases.</p> <p><b>Dr. Mamoni Dash</b> currently focuses on the development of polymers as biomaterials for tissue engineering and drug delivery applications</p>
10	A. Publishes on both national & international journals of high repute with high impact factor. B. Conducted workshop on income generation programme.
11	Research carried out at CDFD gives insight of both basic as well as applied science like DNA Fingerprinting and Diagnostics which has direct impact on society. CDFD has developed various technologies. Patents have been filed/obtained for most of these technologies. Needless to mention, women researchers have equal opportunity and many of these have been developed by them. Their contribution have been equally appreciated and awarded. They are always encouraged and motivated.
12	Dr Madhuri Subbiah, Scientist-D (women scientist) has Optimized Newcastle disease virus (NDV)

<b>13</b>		14 Publications, 4 Projects, 1 Patent, 3 germplasm registrations, 5 MOUs
<b>14</b>		Women scientists have their own labs and perform robust research in different areas such as stem cell plasticity and apoptosis in metazoan cells. This has yielded in publications in peer-reviewed journals. Women group leaders contribute to teaching in the graduate programme and oversight of facilities. They also contribute to the administration of the institute.
<b>15</b>		<p>Developed an innovative way to reduce environment pollution caused due to the burning of agricultural biomass.</p> <p>Demonstrated that lignin (from agricultural biomass) can be converted to biocompatible noble metal nanocomplexes in the presence of metal salt via a green and economic methodology.</p>
<b>16</b>		Women Scientists in the Department of Biotechnology are overseeing implementation/funding of various R&D programs, MISSIONS Programs, AWARDS, FELLOWSHIPS, TRAVEL GRANTS, International Cooperation, matters of policy, regulation, IPR and legislation (DNA Bill etc.), Autonomous Institutions , related to S&T.

### Annexure-IV

S.No	Autonomous Institute/Department	1) Details of Sanctioned Positions, On Roll Position & Vacancy				
		Total Sanctioned Strength of Scientific Cadre	Total number of Scientist on roll	Total number of vacancies	Total number of Women Scientist out of 1(b) above	% of Women Scientists out of 1(b) above
1	Ragiv Gandhi Centre of Biotechnology (RGCB), Thiruvananthapuram.	43	43	0	14	32.6
2	National Institute of Plant Genome Research (NIPGR), New Delhi	34	27	7	8	29.6
3	National Institute of Immunology (NI), New Delhi	55	36	19	8	22.2
4	Translational Health Science and Technology Institute (THSTI), Faridabad.	20	15	5	4	26.7
5	National Institute of Biomedical Genomics, (NIBMG), Kalyani	43	16	27	4	25.0
6	Regional Centre of Biotechnology (RCB), Faridabad	40	12	28	2	16.7
7	National Centre for Cell Sciences, (NCCS), Pune	55	36	19	12	33.3
8	National Brain Research Centre (NBRC), Manesar	27	15	12	3	20.0
9	Institute of Life Sciences, Bhubaneswar	28	26	2	2	7.7
10	Institute of Bioresources and Sustainable Development, (IBSD), IMPHAL.	17	18	-1	4	22.2
11	Centre for DNA Fingerprinting and Diagnostics (CDFD), Hyderabad.	28	25	3	8	32.0
12	National Institute of Animal Biotechnology, (NIAB), Hyderabad	22	17	5	1	5.9
13	National Agri-Food Biotechnology Institute, (NABI), Mohali	103	11	92	1	9.1
14	Stem Cell Science and Regenerative Medicine Institute (inStem), Bengaluru	8	8	0	3	37.5
15	Centre of Innovative and Applied Bioprocessing (CIAB), Mohali	28	5	23	1	20.0
16	Dept. of Biotechnology (DBT), Ministry of Science and Technology	54	35	19	19	54.3
	<b>Total</b>	<b>605</b>	<b>345</b>	<b>260</b>	<b>94</b>	<b>27.2</b>

S.No	Autonomous Institute/Department	Kindly elaborate on Women centric measures taken by your Institute for creating an enabling environment for participation in Research & Development
1	Rajiv Gandhi Centre of Biotechnology (RGCB), Thiruvananthapuram.	RGCB always have a large number of well-qualified women researchers, which comes around 59%. With prompt prominence at RGCB, women scientists and students are being encouraged to pursue research in frontier areas of S&T. With prompt prominence at RGCB, women scientists and students are being encouraged to pursue research in frontier areas of S&T.
2	National Institute of Plant Genome Research (NIPGR), New Delhi	The incentives and relaxations provided by the Government of India to women candidates in appointments, service conditions and for award of fellowship/research projects, are being extended by NIPGR to encourage female participation and creating an enabling environment for participation in the field of Research & Development.
3	National Institute of Immunology (NII), New Delhi	Women Centric measures taken by NII to create enabling environment for their participation in Research and Development. The Institute follows the policy of encouraging women to apply against various vacancies by specifically mentioning it in the advertisement. A Day Care Center was being run by the Department of Women & Child Development, Government of National Capital Territory of Delhi in the premises of NII to facilitate working mothers to keep their children in safe environment. Due to its underutilized capacity, the Centre has been closed by the Department of Women & Child Development. Women Scientists are accommodated on priority basis in research project as selected by DST in Women Scientist Programme. Women employees working in project as well as outsourced employees are allowed maternity leave.

4	Translational Health Science and Technology Institute (THSTI), Faridabad.	<p>(a) Implementation of zero-tolerance violence and sexual harassment policy, (b) Constitution of Internal Complaints Committee and proper communication of contact details of members in the Committee across the organization, (c) Creation of confidential@thsti.res.in for receiving mails regarding harassment at work place, (d) Conducting orientation programs and seminars on The Sexual Harassment of Women at Work Place (Prevention, Protection and) Act, 2013, (e) At the time of recruitment, women candidates are exempted from payment of application fee, (f) Day care facility for working others, (g) Preferential hostel and transport facility to women researchers/students/employees, (h) Flexible working hours, (i) Work from home facility (j) Maternity Leave and Child Care Leaves as per CCS (Leave) Rules-1972, (k) Self-defense courses for women</p>
5	National Institute of Biomedical Genomics, (NIBMG), Kalyani	We invite successful women role models to share their experiences with members of our faculty and students
6	Regional Centre of Biotechnology (RCB), Faridabad	<p>RCB presently has the following opportunities for researchers in the field of scientific research and development and <b>RCB offers equal opportunities to women researchers</b> by providing a very congenial working atmosphere: <b>1.</b> Young investigator Awards <b>2.</b> Mentoring multi-institutional awardees like IYBA, Welcome DBT (Early career &amp; intermediate), DST-Inspire, Ramanujan, Ramalingaswami, and BioCARE awardees. <b>3.</b> Regular Research Fellowships , <b>(4)</b> RCB-Ramachandran-DBT fellowships to the students admitted to PhD (Integrated) program for the first two years. <b>5.</b> RCB-DBT International Doctoral fellowships to host the international students for its PhD programme.</p> <p><b>Below are some measures taken to create an enabling environment for their participation in research and Development.</b></p> <p><b>1.</b> Female Research fellows/PhD students are granted paid maternity leave, which give them the opportunity to continue research after a much-needed break (in addition to assisting themselves during the period of leave). <b>2.</b> The majority of grants currently have a short life cycle of 03 years. This puts the</p>

		<p>researchers under pressure to build their track record in a short amount of time. However, Young Investigator (YI) Awards, initially for a period of 03 years can be extended for additional 02 years (based on the review by a committee). This extended duration of the grant is beneficial not only for the females (who experience more career disruptions than the males) but for the stability of all research projects.</p>
7	National Centre for Cell Sciences, (NCCS), Pune	<p>There are several programmes for promoting the involvement of women in research and development. NCCS keeps no restriction in recruiting women scientists and students to research positions and also encourages them to apply for training programmes. The ratio of women scientists to male scientists at NCCS is increasing. The percentage of women scientists hired as faculty in recent years has gone up, with 42% of the faculty hired since 2012 being women. During the last round of selection of Ph.D. research scholars, who are the future scientists of India, 9 out of the 11 candidates selected were ladies. The women researchers at NCCS are routinely made aware of and strongly encouraged to apply for women-centric grants / scholarships, and other opportunities, such as the Indo-U.S. Fellowship for Women in STEMM to undertake short term international collaborative research in premier institutions in U.S.A., the Career Advancement and Re-orientation Programme (Bio-CARe) for Women from DBT, INSPIRE fellowships, Ramalingaswami Re-entry Fellowships, etc., and these opportunities are availed of by the women scientists at NCCS to enhance their careers in research and development. Moreover, other efforts are underway at NCCS to facilitate women to adopt and stay in a career in science, and to support their efforts to work at par with the men scientists. For example, NCCS has recently started a day care facility to encourage young women to join as scientists.</p>
8	National Brain Research Centre (NBRC), Manesar	<p>About 35% of our scientists (including PDFs, Research Associates, Consultant) are women at NBRC. Some of our woman scientists have grants/fellowships, which are specifically awarded to woman scientist in our country.</p>



		Dr. Nandini Chatterjee Singh has National Woman Bioscientist Award-2012. Dr Sayali C. Ranade had DST-Woman Scientist award
9	Institute of Life Sciences, Bhubaneswar	The Institute has been providing equal opportunities to women in the research and development. The percentage of women working in research and development of the Institute are: JRF/SRF: 47.58% Women Scientist / Post-doctoral Fellows: 53.33% Laboratory technician: 54.84%
10	Institute of Bioresources and Sustainable Development, (IBSD), IMPHAL.	Encourage by enrolling maximum no. of women in Ph.D programme & project staffs in the institute.
11	Centre for DNA Fingerprinting and Diagnostics (CDFD), Hyderabad.	At CDFD, the number of permanent women staff including the scientists is 31 out of 114. We have one female Post-doctoral Fellow out of 2 and 8 female Project Associates out of 16. The total number of female Ph.D students at CDFD is 42 out of 101. In CDFD, women participation is encouraged in all aspects. They have equal opportunities as men whether it is within CDFD or outside like nominations for meetings, conferences, awards etc. CDFD follows all government rules related to equal opportunity for women.
12	National Institute of Animal Biotechnology, (NIAB), Hyderabad	Encourage by enrolling maximum no. of women in Ph.D programme & project staffs in the institute.
13	National Agri- Food Biotechnology Institute, (NABI), Mohali.	Women and men are given same environment and equal opportunity.
14	Stem Cell Science and Regenerative Medicine Institute (inStem), Bengaluru	The internal complaints committee aids to provide a safe working environment for women. Other facilities include: on-site day care and crèche facility, maternity leave policy, gender sensitive tenure policy, institute transportation for students and hostel facility.
15	Centre of Innovative and Applied Bioprocessing (CIAB), Mohali	1. The institute has constituted an Internal Committee for women. 2. The institute is working on for provisioning of creche/day

		care facility for women pursuing research.
16	Dept. of Biotechnology (DBT), Ministry of Science and Technology	Facilities and allowances as per Central Government Rules are available to all women Scientists in the Department

**COMMITTEE ON EMPOWERMENT OF WOMEN (2016-2017)**

**MINUTES OF THE SIXTH SITTING OF THE COMMITTEE HELD ON TUESDAY, 21  
FEBRUARY, 2017**

The Committee sat from 1100 hrs. to 1230 hrs. in Room No. 53, First Floor,  
Parliament House, New Delhi.

**PRESENT**

Smt. Bijoya Chakravarty - **Chairperson**

**MEMBERS**

**LOK SABHA**

2. Smt. Anju Bala
3. Km. Sushmita Dev
4. Smt. Jyoti Dhurve
5. Smt. Bhavana Gawali
6. Smt. Darshanaben Jarodsh
7. Smt. Jayshreeben Patel
8. Smt. Satabdi Roy (Banerjee)
9. Smt. Mala Rajya Laxmi Shah
10. Smt. Rita Tarai
11. Smt. Savitri Thakur
12. Smt. R. Vanaroja

**RAJYA SABHA**

13. Shri. Prabhat Jha
14. Smt. Rajani Patil
15. Smt. Kahkashan Perween
16. Ms. Dola Sen
17. Shri A.V. Swamy

**SECRETARIAT**

1. Shri N.C. Gupta. - Joint Secretary
2. Shri T.S. Rangarajan - Director
3. Shri Khakhai Zou - Additional Director

**Representatives of Ministry of Health & Family Welfare**

1. Shri. C. K. Mishra - Secretary

**Representatives of the Indian Council of Medical Research**

- |    |                              |                          |
|----|------------------------------|--------------------------|
| 1. | Dr. (Ms.) Soumya Swaminathan | Secretary Deptt. HR & DG |
| 2. | Shri Sanjeeva Kumar          | Additional Secretary     |
| 3. | Shri Arun Singhal            | Joint Secretary          |
| 4. | Shri Manoj Pant              | Joint Secretary, D/o HR  |
| 5. | Shri Oma Nand                | Director                 |

**Representatives of the Safdarjung Hospital & Vardhman Mahavir Medical College**

- |    |                        |                                   |
|----|------------------------|-----------------------------------|
| 1. | Dr. A.K. Rai           | Medical Superintendent            |
| 2. | Dr. K.T. Bhowmik       | Additional Medical Superintendent |
| 3. | Dr. (Mrs.) Gul Motwani | Consultant & HOD, ENT             |

**Representatives of Lady Hardinge Medical College & Hospital**

- |    |                     |                                   |
|----|---------------------|-----------------------------------|
| 1. | Dr. Jagdish Chandra | Director                          |
| 2. | Dr. Manjula Jain    | Director. Prof., Deptt. Pathology |

**Representatives of the Dr. Ram Manohar Lohia Hospital and Nursing Home & PGIMER**

- |    |                   |                                   |
|----|-------------------|-----------------------------------|
| 1. | Dr. A.K. Gadpayle | Medical Superintendent            |
| 2. | Dr. Poonam Kapoor | Additional Medical Superintendent |

**Representatives of the All India Institute of Medical Sciences**

- |    |                    |                                 |
|----|--------------------|---------------------------------|
| 1. | Mr. V. Srinivas    | Deputy Director (Admn.)         |
| 2. | Dr. Chitra Sarkar  | Prof. Deptt. of Neuro Pathology |
| 3. | Dr. Maneesh Singal | Chief Admn. Officer             |

- 1 At the outset, the Chairperson welcomed the members of the Committee to the sitting convened to take oral evidence of the representatives of the Ministry of Health & Family Welfare in connection with examination of the subject 'Higher Education and Research & Development - Prospects for Women'.

*[Witnesses were then called in]*

3. After welcoming the witnesses, the Chairperson read out Direction 55 regarding confidentiality of the proceedings. The Chairperson, in her initial remarks, touched

upon several issues, such as, various challenges faced by women in furthering their career in research and development, maintaining work life balance and specific health related challenges. The significance of research and development in eradicating health related issues for women was an important point of discussion.

4. While elaborating upon the efforts taken by the Ministry of Health & Family Welfare in dealing with the health challenges for women, the Ministry highlighted that under the National Health Mission, more than 50 per cent of expenditure was earmarked towards activities which are largely women centric. They also highlighted that the representation of women in medical education is at a pretty high level in terms of percentage compared to men among the fellowships which are given under ICMR, about 40 per cent go to women for doing their Ph.D. or post-doctoral research.
5. It was further highlighted that eight out of eleven divisions in ICMR are headed by women and they are recognized internationally in the field of tuberculosis, malaria and reproductive health. ICMR highlighted its major achievements in the field of research relating to contraceptive methods, menopause and osteoporosis, breast and cervical cancer.
6. During the further course of discussion, the Ministry apprised the Committee of a very ambitious programme to be launched in April in 100 districts of the country called the 'universal screening programme' under which five medical conditions, namely, hypertension, diabetes, oral cancer, breast cancer and cervical cancer would be screened. Other issues which came during the discussion were related with cancer related campaigns, Ethics Committee, enhancing Coordination in AIIMS for a patient friendly environment, issue of discrimination in grant of research funds under ICMR, research publications by ICMR scientists, awareness in the inner area of hilly regions regarding health awareness for women, functioning of the newly constructed AIIMS, scarcity of trained professionals in AIIMS and enhancement of seats in medical courses etc. The queries raised by Hon'ble Chairperson and other Members of the Committee were responded to by the representatives of the Ministry of Health.

*The witnesses then withdrew]*

*The Committee then adjourned.*

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**COMMITTEE ON EMPOWERMENT OF WOMEN (2016-2017)**

**MINUTES OF THE SEVENTH SITTING OF THE COMMITTEE HELD ON  
TUESDAY, 23 MARCH, 2017**

The Committee sat from 1500 hrs. to 1615 hrs. in Committee Room No. 'B', Ground Floor, Parliament House, New Delhi.

**PRESENT**

Smt. Bijoya Chakravarty - Chairperson

**MEMBERS**

**LOK SABHA**

2. Smt. Rama Devi
3. Smt. Darshanaben Jarodsh
4. Smt. Poonamben Hematbhai Maadam
5. Smt. Supriya Sule
6. Smt. Rita Tarai
7. Smt. Savitri Thakur
8. Smt. Renuka Butta

**RAJYA SABHA**

9. Smt. Rajani Patil
10. Smt. Kahkashan Perween
11. Ms. Dola Sen
12. Shri Jharna Das Baidya
13. Smt. Vandana Chavan

**SECRETARIAT**

1. Shri N.C. Gupta. - Joint Secretary
2. Shri T.S. Rangarajan - Director
3. Shri Khakhai Zou - Additional Director

2. At the outset, the Chairperson welcomed the Members of the Committee to the sitting convened for consideration and adoption of draft Action Taken Report of the

Committee on the action taken by the Government on the recommendations contained in the Sixth Report of the Committee on the subject 'Empowerment of Tribal Women'.

3. Thereafter, the Committee took up for consideration the draft Action Taken Report of the Committee on the action taken by the Government on the recommendations contained in the Sixth Report (Sixteenth Lok Sabha) on the subject 'Empowerment of Tribal Women'. After discussing the Draft Report in detail, the Committee also authorized the Chairperson to finalize the Draft Report and present the same to both Houses of Parliament.

4. Thereafter, the Committee took the oral evidence of the representatives of the Ministry of Ayush.

5. While elaborating upon the efforts taken by the Ministry of AYUSH regarding prospects of Research & Development for women, the Ministry highlighted that approximately 50 percent of annual intake in the UG Classes of AYUSH Colleges are women. Incrementally, over the next few years, almost half the scientists working in Ayurveda, Unani, Homeopathy and Siddha Research Councils would be women.

6. The Ministry highlighted prospects of Research & Development for women and stated that there has been AYUSH intervention on issues of healthy pregnancy and healthy progeny, anemia in females, Cervical and breast cancer, sub-clinical hypothyroids and management of Osteoporosis, exclusive lifestyle counseling clinics for women have been developed.

7. During the further course of discussion, the Ministry apprised the Committee that they have signed an agreement with the Advertising Standards Councils of India which is the advertising regulator to deal with the issue of misleading claims and advertisements in print as well as electronic media regarding false claims of cure for everything.

8. The queries raised by Hon'ble Chairperson and other members were responded to by the representatives of the Ministry of AYUSH.

The witnesses then withdrew. The Committee then adjourned.

**COMMITTEE ON EMPOWERMENT OF WOMEN (2017-2018)**

**MINUTES OF THE FIFTH SITTING OF THE COMMITTEE HELD ON  
WEDNESDAY, 03 JANUARY, 2018**

The Committee sat from 1500 hrs. to 1650 hrs. in Chairperson's Chamber, Parliament House Annexe, New Delhi.

**PRESENT**

Smt. Bijoya Chakravarty - **Chairperson**

**MEMBERS**

**LOK SABHA**

2. Smt. Rama Devi
3. Smt. Anju Bala
4. Smt. Renuka Butta
5. Smt. Raksha Khadse
6. Smt. Poonam Hematbhai Maadam
7. Smt. Riti Pathak
8. Smt. Supriya Sule
9. Smt. P.K.Sreemathi Teacher
10. Smt. Savitri Thakur

**RAJYA SABHA**

11. Smt. Rajani Patil
12. Smt. Kahkashan Perween
13. Shri A.V. Swamy
14. Smt. Vandana Chavan

**SECRETARIAT**

1. Shri N.C. Gupta. - Joint Secretary
2. Shri T.S. Rangarajan - Director
3. Shri Khakhai Zou - Additional Director

**Representatives of the Ministry of Human Resource Development**

1. Shri Kewal Kumar Sharma - Secretary
2. Shri R Subrahmanyam - Special Secretary
3. Shri S.S. Sandhu - Joint Secretary



### **Representatives of the University Grants Commission (UGC), Delhi**

1. Shri P.K. Thakur - Secretary
2. Dr. Archana Thakur - Joint Secretary

### **Representatives of the University of Delhi (DU)**

1. Prof. Jaya S. Tyagi
2. Prof. Neeta Sehgal
3. Prof. Tarun Kumar Das

### **Representatives of the Indira Gandhi Delhi Technical University for Women**

1. Prof. Nupur Prakash - Vice Chancellor

### **Representatives of the Indian Institute of Technology (IIT), Delhi**

1. Prof. (Ms) Suchi Sinha
2. At the outset, the Chairperson welcomed the members to the sitting convened to have a briefing and presentation by the representatives of the Ministry of Human Resource Development (Department of Higher Education), University of Delhi (DU), Indian Institute of Technology (IIT), Delhi, University Grants Commission (UGC) and Indira Gandhi Technical University for Women, Delhi in connection with examination of the subject “Higher Education and Research and Development – Prospects for Women”,

[Witnesses were then called in]

3. After welcoming the witnesses, the Chairperson read out Direction 55 (i) regarding confidentiality of the proceedings. The Chairperson, in her initial remarks, observed that the issue of the various challenges faced by women in furthering their career in Research and Development, maintaining work-life balance is a matter of concern, significance of research and development in bettering their lives and bringing sustainable development in the country. During the course of her welcome address, the Chairperson *inter-alia* also expressed the unhappiness of the Committee over the delay in providing required documents on the subject for circulation to the members of the Committee.

4. Before starting discussion on the subject, the Ministry of Human Resource Development highlighted that the Indian higher education system is one of the most elaborate in the entire world with 799 universities as on date, at least 50,000 colleges and nearly 3.45 crore students. Further, it was stated that the gender parity of 0.92 indicates that the Indian Higher education institutions provide almost equal opportunities for the girl students. Further, it was also informed that a committee under the IIT system whose recommendations were made before the IIT Counsel has approved that the number of girl students will be taken from current levels of nine per cent in the IIT system to at least 20 per cent by 2020.
5. Prof. Nupur Prakash, Vice Chancellor from Indira Gandhi Technical University (IGTU) for Women, Delhi and University of Delhi highlighted their achievements in the field of Empowering women in Higher Education. It was further highlighted about clause K2 passed by the Executive Council of DU, which says that women scholars may be provided maternity Leave/Child Care Leave once in their entire duration for submission of M.Phil./Ph.D for up to 240 days. This period shall not be counted in the total duration for submission of M.Phil dissertation/Ph.D. thesis. Other women centric provisions were also highlighted.
6. In response to the queries of the members the Ministry of Human Resource Development further highlighted specific programmes to encourage girl students like Indira Gandhi Postgraduate Scholarship for single girl child, an amount of Rs. 11.51 crore for 4,617 beneficiaries was spent by UGC. Under another scheme called "Swami Vivekanand Single Girl Child Scheme" for Fellowship Research in Social Sciences is specifically meant for single girl child. In the context of capacity building for women managers in higher education, 205 sensitisation and awareness workshops, 22 training of trainers, 13 management skills enhancement and five other workshops have been organized by various universities and colleges. It was also stated that the Ministry have taken initiative in the form of "Institutions of Eminence Scheme" which was recently launched under which government of India has decided to promote 10 institutions of eminence in the private sector and also ten institutions of eminence in the public sector. In the Department of Science and Technology, "Gyan" was stated as a major scheme. More than 700 scholars from abroad had come and lectured in India leading to

greater collaboration with the Indian universities giving a lot of fillip to the research efforts in the country.

7. In response to the specific query of the committee regarding the special facilities for women researchers who get married and have children, the MHRD responded that the new UGC regulations which came in 2016 is significant. For women who are pursuing M.Phil, will be given a relaxation of at least one year and for women who are doing Ph.D, will be given a relaxation of two years. Secondly, they can co-locate their research work. The Ministry informed about women welfare specific schemes like Rashtriya Uchchatar Shiksha Abhiyan (RUSA). Further, NITI Ayog has identified 121 aspirational districts identified on the basis of educational backwardness. It was also stated that is intended to set up model degree colleges in 115 backward districts was communicated. UGC is also supporting 163 women study centres all across the country.
8. The Committee directed that the ministry must send a circular regarding the provision of putting up boards in colleges regarding the members of ICC and treat it as absolutely necessary by all the colleges. Secondly, awareness among the students about these provisions as contained in the Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013 needs to be taken up. The ministry stated that they will perform audit whether the boards are there or not and will workout a methodology through the UGC.
9. The issues raised by the Chairperson and the Members were replied to by the officers of the Ministry and the representatives of the various Institutions. The Ministry/Institutions also assured the Committee that they would furnish written replies to the Secretariat at the earliest on those queries on which the information was not readily available.

(The witnesses then withdrew)

10. A verbatim record of the proceedings has been kept.

*The Committee then adjourned*

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**COMMITTEE ON EMPOWERMENT OF WOMEN (2017-18)**

**MINUTES OF THE EIGHT SITTING OF THE COMMITTEE HELD  
ON THURSDAY, 23 APRIL, 2018**

The Committee sat from 1000 hrs. to 1110 hrs. in Committee Room B. Ground Floor, Parliament House Annexe, New Delhi.

**PRESENT**

Smt. Bijoya Chakravarty - Chairperson

**MEMBERS**

**LOK SABHA**

2. Smt. Anju Bala
3. Smt. Rama Devi
4. Smt. Bhavana Gawali (Patil)
5. Smt. Darshanaben Jardosh
6. Smt. Jayashreeben Patel
7. Smt. Satabdi Roy (Banerjee)
8. Smt. Mala Rajya Laxmi Shah
9. Smt. P.K. Sreemathi Teacher
10. Smt. Savitri Thakur

**RAJYA SABHA**

11. Ms. Dola Sen

**SECRETARIAT**

1. Shri N.C. Gupta - Joint Secretary
2. Shri T.S. Rangarajan - Director
3. Shri Khakhai Zou - Additional Director

**Representatives of the Ministry of Human Resources Development**

1. Sh. R. Subrahmanyam - Secretary
2. Sh G.C. Hosur - Joint Secretary

**Representatives of Jawahar Lal University**

1. Sh M. Jagadesh Kumar
  2. Prof. Vibha Tandon
2. At the outset, the Chairperson welcomed the Members of the Committee to the sitting convened to have a briefing and presentation by the representatives of the Ministry of Human Resources Development and Jawahar Lal University in connection with examination of the subject 'Research and Development: Prospects for Women'.

[Witnesses were then called in]

3. After welcoming the witnesses, the Chairperson read out Direction 55 regarding confidentiality of the proceedings. The Chairperson, in her initial remarks, expressed the need to provide Women with ameliorative and qualitative facilities that can lessen their hardships in day to day life. She further stated that inclusion of Women in the field of research and development is a step in this direction that can motivate and make women contribute in the growth story of Indian and also manifest their creative potential.
4. Thereafter, the Ministry of Human Resources & Development and Jawahar Lal University gave Presentations on various aspects relating to Prospects for women in the field of Research and Development. The various issues which came during the presentations included, existing facilities for women researchers, participation of women in research and development and technological field, issue pertaining to sexual harassment of women, reservation policy, quality issues and ranking on the international level etc.
5. Subsequent to the Presentation, the Members raised queries over various issues concerning quality of education, sexual harassment, reservation policy, politics in the campus, participation of women in research and development etc. The Ministry highlighted the increasing Gender Parity Index in India but expressed concerns about participation of women in the field of Technology and stated that efforts are being made to increase Women's participation in the field of technology. It was further stated that UGC has taken proactive measures for promoting girls in higher education like flexi time for completion of Ph. D., special fellowships. The Vice Chancellor, JNU stated that there exists 32 per cent of the female faculty in the University. Further, the reservation policy is being strictly followed in the University, women get 5 extra points as probation points in

admission. Further, University is intending to get more funds from PSUs under CSR\$. The University also provided clarifications regarding the recent agitations in JNU and assured the Committee that such issues will fade away and the university will continue to grow and become one of the best in the world. In response to the questions of members regarding the issue of sexual harassment of women, the university stated that JNU is a very safe campus and several awareness programmes are being conducted for the faculty, staff and students.

6. The issues raised by the Chairperson and the Members were replied to by the officers of the Ministry concerned. However, on the queries on which the information was not readily available, the Ministry was directed to furnish written replies to the Secretariat at the earliest.

(The witnesses then withdrew)

7. A verbatim record of the proceedings has been kept.

The Committee then adjourned.

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**COMMITTEE ON EMPOWERMENT OF WOMEN (2017-2018)**

**MINUTES OF THE FOURTH SITTING OF THE COMMITTEE  
HELD ON**

**TUESDAY, 12 FEBRUARY, 2019**

The Committee sat from 1500 hrs. to 1600 hrs. in Committee Room “B”, Ground Floor,  
Parliament House Annexe, New Delhi.

**PRESENT**

Smt. Bijoya Chakravarty - **Chairperson**

**MEMBERS**

**LOK SABHA**

2. Smt. Anju Bala
3. Smt. Renuka Butta
4. Smt. Darshanaben Jardosh
5. Smt. Jayshreeben Patel
6. Smt. Riti Pathak
7. Smt. Mala Rajya Laxmi Shah
8. Smt. Raksha Khadse
9. Smt. Supriya Sule
10. Smt. Rita Tarai
11. Smt. P.K. Sreemathi Teacher
12. Smt. Savitri Thakur
13. Smt. R. Vanaroja

**RAJYA SABHA**

14. Smt. Jharna Das Baidya
15. Smt. Vijila Sathyananth
16. Smt. Vandana Chavan
17. Smt. Kahkashan Perween
18. Ms. Dola Sen

**SECRETARIAT**

1. Shri T.S. Rangarajan - Director

2. At the outset, the Chairperson welcomed the Members of the Committee to the sitting of the Committee:

3. The Committee then took up the following draft Reports for consideration

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(i)\*\*\*\*\*

(ii)\*\*\*\*\*

(iii)Draft Report of the Committee on the subject 'Higher Education and Research and Development - Prospects for Women'

4. After some deliberations, the Committee adopted the Draft Report without any modification and authorized the Chairperson to finalise the Draft Report and present the same to both the Houses of Parliament.

5. \*\*\*\*\*

6.\*\*\*\*\*

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*The Committee then adjourned.*

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\_\*\*\*\*\* Matters not related to this Report



