



Women Scientists in India

For Prelims: Department of Science and Technology, Vigyan Jyoti Programme, Science Technology Engineering and Mathematics (STEM), CURIE programme, GATI program.

For Mains: Representation of Women in Science and Associated Government Initiatives.

Why in News?

Data compiled by the [Department of Science and Technology \(DST\)](#) shows that 28% of participants in extramural Research & Development projects in 2018-19 were women, **up from 13% in 2000-01 due to various initiatives taken by successive governments.**

- The ministry aims to raise **women's participation in S&T to 30% by 2030.**
- The recent appointment of **Dr N Kalaiselvi** as the first woman director general of [Council of Scientific and Industrial Research \(CSIR\)](#) underlined a significant trend of participation of women in science research.

What are the Key Findings?

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WOMEN IN SCIENCE

SCIENTISTS

Post-doc and above,
including researchers
& faculty

2015
13.9%

2018
18.7%

2020
20%*

*2020 data approximate, still being analysed

ENROLMENT

Year	Undergrad	PG	MPhil	PhD
2011-12	13.2%	9.62%	17.58%	22.9%
2012-13	13.2%	14.26%	28.39%	28.3%
2013-14	14.1%	13.84%	27.22%	27.8%
2014-15	15.4%	14.09%	27.9%	27.7%
2015-16	16.2%	14.49%	27.6%	27.5%

▪ DST Findings:

- The number of women principal investigators in R&D had risen **more than four times** from 232 in 2000-01 to 941 in 2016-17.
- The percentage of women among researchers **went from 13.9% in 2015 to 18.7% in 2018.**
- While the overall data **show an upward trend**, women researchers in engineering and technology are **fewer than in natural sciences, health and agriculture.**
 - The percentage of women researchers in the social sciences and humanities is, however, much higher at 36.4%.
- At the post-doctoral level, there are **fewer women researchers than the global average.**
- Participation (of women) is **healthy till the postgraduate level.**
 - But there is a drop at the post-doctoral level, **where most of the research takes place.** Even though this too has increased, it is still far less than the 30% global average

▪ All India Survey on Higher Education (AISHE) 2019:

- According to [AISHE](#), 53% participation of women in science education at Bachelor's and 55% at Master's levels respectively.
 - But at doctoral level, women graduates at 44% lagged behind men at 56%.

What is the Overall State of Women Participation in the Science Sector?

▪ National Figure:

- Number of science researchers in India has **doubled from 30,000 in 2014 to over 60,000 in 2022.**
- Women's participation is the **highest in [biotechnology](#) at 40% and medicine at 35%.**

▪ Department of Science and Technology:

- Out of the 97 scientists in the Department of Science and Technology (DST), **35 are women.**
- The big achievement is that **11 out of 18 divisions in the DST are now headed by women**, that is 61%, probably the **largest percentage of women in leadership in any government department.**
- **Other Institutions:**
 - **Coalition for Disaster Resilient Infrastructure (CDRI)** has 18%, NIPER Hyderabad 21%, and the Defence Bio-Engineering and Electro-Medical Lab (DEBEL) in Bangalore has 33%.
 - Delhi University has 33% women's participation, while Tezpur University in Assam has 17%.

What Initiatives has the Government Taken for Women in Science?

- **Gender Advancement for Transforming Institutions (GATI):**
 - **The Gender Advancement for Transforming Institutions (GATI)** was launched by the Department of Science & Technology (DST).
 - It will develop a **comprehensive Charter and a framework for assessing Gender Equality in STEM** (Science, technology, engineering, and mathematics).
 - In the first phase of GATI, 30 educational and research institutes have been selected by DST, with a focus on women's participation in leadership roles, faculty, and the numbers of women students and researchers.
- **Vigyan Jyoti Scheme:**
 - **Vigyan Jyoti Scheme** is launched by the Department of Science & Technology (DST).
 - It is intended to create a **level-playing field for the meritorious girls in high school to pursue Science, Technology, Engineering, and Mathematics (STEM)** in their higher education.
 - It also offers exposure for girl students from the rural background to **help to plan their journey from school to a job of their choice in the field of science.**
- **Indo-US Fellowship for Women in STEMM (WISTEMM) program:**
 - Women scientists can work in research labs in the US.
- **Consolidation of University Research for Innovation and Excellence in Women Universities (CURIE) Programme:**
 - **Improving R&D infrastructure** and establishing state-of-the-art research facilities in order to create excellence in S&T in women universities.

[Source: IE](#)

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