



Women Participation in STEM

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Why in News

Recently, India-Israel Women in **Science, Technology, Engineering and Mathematics (STEM)** conference was held.

The **need for introducing flexible work times** and **gender-neutral pays** to enhance women participation in STEM was highlighted.

STEM

- **About**

- The STEM acronym was **introduced in 2001** by scientific administrators at the U.S. National Science Foundation (NSF).
- The organization previously **used the acronym SMET** when referring to the career fields in those disciplines or a curriculum that integrated knowledge and skills from those fields.
- It is a **curriculum based on the idea of educating students** in 4 specific disciplines — science, technology, engineering and mathematics — in an interdisciplinary and applied approach.
- **India is one of the countries** that produce the **highest number of scientists and engineers**, the growth of STEM has picked up significantly over the last few years.

Under Article 51A of the Constitution of India, it is a duty of every citizen of India to develop the scientific temper, humanism and the spirit of inquiry and reform.

- **Significance:**

- A **robust STEM education creates** critical thinkers, problem-solvers, and next-generation innovators.
- According to the **National Science Foundation**, it is predicted that 80% of the jobs created in the next decade will require some form of math and science skills.

Key Points

- **Participation of Women in STEM:**

- About **43% of STEM graduates in India** are women, which is the highest in the world, but their share in STEM jobs in India is a mere 14%.
- In Indian STEM, the **primary concern** has never been with the **number of women graduates**, but with the proportion of those who ultimately land STEM jobs.
- S&T has **translated into the economic sphere** and institutions are structured so, Science & Technology (S&T) could **become a changemaker in society** by introducing flexible work times, and gender-neutral pays to enhance women participation in STEM.
- Greater women's participation in the tech sector will **make women more strong and influential**, giving a boost to their socio-economic situation in the society.

- **Reasons for the Low Participation:**

- **Stereotypes:** The paucity of women in STEM is **not merely due to skill inadequacy**, but also a result of **assigned stereotypical gender roles**.
- **Patriarchy:** There are **patriarchal attitudes in hiring practices** or awarding fellowships and grants etc.
- **Society:** Lack of role models, pressures to conform to societal norms and trappings of domesticity.
- **Stress:** Stressors related to marriage, childbirth etc.
- **Household Responsibility:** Responsibility **related to running of households and elder care**.
- **Physical Safety:** Physical safety during the commute to work.
- **Harassment:** Sexual and other types of harassment in workplaces, etc.

- **Initiatives to Promote Women Participation:**

- **Vigyan Jyoti Scheme:**

- It 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.

- **GATI Scheme:**

The **Gender Advancement for Transforming Institutions (GATI)** will develop a comprehensive Charter and a framework for assessing Gender Equality in STEM.

- **Knowledge Involvement Research Advancement through Nurturing (KIRAN):**

- Launched in 2014-15, the scheme provides opportunities for women scientists in moving up the academic and administrative ladder.
- **One of the programmes under the KIRAN scheme — ‘Women Scientist Scheme’** — provides career opportunities to unemployed women scientists and technologists, especially those who had a break in their career.

Way Forward

- The **problem needs to be addressed at two levels** – at societal level which requires long term effort and the policy and institutional level, which can be started with immediate effect.
- There is an **immediate need to invest in supporting infrastructure, incentivising institutions** to promote gender equity, transparency in decision making etc. to bridge the persisting gender imbalance in STEM majors.
- As a first step, however, **schools need to break the ‘gendered notions of intelligence’** and encourage girls not only to take science at secondary and higher secondary level but also to pursue their career in STEM.
 - This would help not only in women being able to chase their dreams but **science itself would be benefitted from other points of view.**
- While the **situation is definitely improving**, and the increase in numbers of women in STEM is indicative of this, the road is yet long. We have a long way to go.

Source: PIB