

General Studies-2; Topic– Welfare schemes for vulnerable sections of the population by the Centre and States and the performance of these schemes; mechanisms, laws, institutions and Bodies constituted for the protection and betterment of these vulnerable sections.

Indian Women in the STEM Field

1) Introduction

- Science, technology, engineering, and medicine – together known as ‘STEM’ fields – suffer from lack of women, especially in India.
- In school exam results, we hear of how girls have outshone boys, but when it comes to those who take up research in later life, the number of women is minuscule.
- This means that many of our best brains that showed the maximum potential do not pick research as a career.

2) Present Status

- According to the 2018 UNESCO Institute for Statistics’ report on women in science, 44% of bachelor students and 41% of doctoral students in India are female.
- Women face “double burden syndrome” - a culture where both men and women feel the family and household duties are primarily the woman's responsibility.
- According to a recent survey on Women in STEM, 81 per cent women in India perceive gender bias in performance evaluations.
- While more women are enrolling in university, relatively few pursue careers in research.
- The ideal fraction of 50% of female students has not been achieved.
- There is a drastic drop in the percentage of women from the doctoral level to the scientist/faculty position.
- There is a “major paucity” of women at the senior-most administrative and policy making positions in scientific institutions.

3) Concerns / Challenges

- When highly qualified women drop out of the workforce, it results in considerable depletion of national resources in science and technology.
- Stereotypes encountered by girls to the family-caring responsibilities.
- Patriarchal society.
- Women face bias when choosing a career.
- Women continue to face the same kind of discrimination at work as they face in society.
- According to a recent Accenture research report, the gender pay gap in India is as high as 67 percent.

4) Government Initiatives

- **Vigyan Jyoti scheme**
 - a. Announced in the 2017 budget for the Ministry of Science and Technology.
 - b. The scheme aim to arrange for girl students of classes 9, 10 and 11 meet women scientists, with the IITs and the Indian Institutes of Science Education and Research.
- **Inspire-MANAK (Million Minds Augmenting National Aspiration and Knowledge)**
 - a. Attract talented young boys and girls to study science and pursue research as a career.

- **Unnat Bharat Abhiyan programme**

- a. Launched by the Ministry of Human Resource Development in 2014.
 - b. Connect India's elite institutes with local communities and address their developmental challenges with appropriate technological interventions.
- Indo-US fellowship for women in science, technology, engineering, mathematics and medicine to participate in international collaborative research in premier institutions in America
 - Women-centric programmes under the Knowledge Involvement in Research Advancement through Nurturing (KIRAN) initiative
 - Bio-technology Career Advancement and Reorientation (Bio-Care) scheme.

5) Way Forward

- India will have the world's youngest population by 2022 and the women of the country will play a definitive role in devising the country's future.
- It takes a multi-pronged approach to create meaningful, lasting changes in the retention of women in STEM fields.
- Women's participation in STEM should be encouraged from primary school level rather only in higher studies.
- Awareness about gender inequality and its outcome has to be increased.
- The community should be supportive and understanding of career prospects for women.
- Changing mindsets and overcoming biases.
- Companies can provide more internship opportunities for women and give STEM scholarships to meritorious yet economically backward girls.
- Initiating a well-planned role model programme with successful women scientists.
- Special fellowships for girl students securing top positions in university exams.
- Reintegrate women who have taken mid-career breaks.
- Closing the pay gap.
- Government agencies, universities, and society must work together to ensure that women achieve their full potential.