NEXT IAS

DAILY EDITORIAL ANALYSIS

TOPIC

Gender Gap in STEM Fields

GENDER GAP IN STEM FIELDS

In Context

- According to the Global Gender Gap Report 2023, women make up **only 29.2 per cent** of all STEM (science, technology, engineering and mathematics) workers across **146 countries.**

Present Status

- STEM (Science, Technology, Engineering, and Maths) is the foundation for innovation, progress, and societal advancement.
- **Women make up almost half (49.3%**) of total employment across non-STEM occupations, but just **29.2% of all STEM worker**s.
- The numbers on the integration of STEM university graduates into the labour market show that the **retention of women in STEM even one year after graduating sees a significant drop.**
- **Nearly 43% of STEM graduates** in India are women. About one-fourth of space scientists in India are women

Reasons of low participation

- **Social conditioning:** Social conditioning arising from existing norms and perceptions about the roles of girls and women in society often leads in shaping the choices that girls make while enrolling themselves into higher education.
- **Negative gender stereotypes** like women being weak and incompetent in comparison to men or that they belong in the kitchen dents the aspirations of many females.
- **Retention challenge:** The other major challenge is the retention of women within the STEM ecosystem. Even when women choose STEM careers, 45 per cent reported challenges in upward mobility and as many as 81 per cent believed that there is a gender-bias in the internal evaluation processes.
  - Further, the government's Labour Force Survey in 2020-21 suggests a gender pay-gap, with men earning 35 per cent more than women across all sectors, thus demotivating the intent to stay in the labour force.
- **Undervaluing :** women working as scientists in lab-based occupations face isolation in male dominated labs that often manifest in lack of support for women colleagues, and losing out on networking opportunities for women that hinder upward mobility.
  - Such trends often also end up in undervaluing women's research and findings within the labs.

Government schemes

- The Department of Science and Technology (DST) in 2020 introduced the **Vigyan Jyoti Scheme for schoolgirls.**
  - Its provisions included directives to schools for conducting lectures at regular intervals and science camps to inculcate scientific temper among female students between 9th to 12th standard.
- **The Department of Science and Technology (DST)** is implementing a dedicated scheme **'Women in Science and Engineering-KIRAN (WISE-KIRAN)'**to cater women of all walks of life in order to enhance their participation in the field of Science and Technology (S&T)with ultimate goal to bring gender parity.
- DST further announced a pilot programme called **Gender Advancement for Transforming Institutions (GATI)** to facilitate a gender-equitable environment in higher education and research centres.
- Another initiative launched by the DST includes the **Consolidation of University Research for Innovation and Excellence (CURIE)** which aims at assisting the research and development facilities at women's universities.
- To assist female researchers involved in Research and Development, **the Science and Engineering Research Board (SERB)** conceived SERB-POWER to provide financial aid in the form of grants and fellowships.

- The Department of Biotechnology (DBT) undertook the **Biotechnology Career Advancement and Re-orientation Programme (BioCARe)** to motivate women to become biotech researchers.

- The DST, in tandem with the Indo-US Science and Technology Forum – based in the US – formulated the **Indo-U.S. Fellowship for Women in STEM**.

- To provide an avenue for scientifically inclined women researchers and scientists, an initiative called **Women in Engineering, Science, and Technology (WEST) was launched in 2022.**

Suggestions

- Despite the women empowerment mission picking up steam across the globe, more needs to be done to increase the number of women in STEM not only internationally, but also domestically.

- At an institutional level, policies that afford flexibility of time, comprehensive child-care provisions, and supportive infrastructure are crucial

- The Indian society and the central and state governments need to collaborate to facilitate a gender-equal ecosystem.

- **Fortifying Foundational Literacy** and Numeracy outcomes through increased financial investment, gender-responsive teacher-training modules and robust assessment and monitoring frameworks can all contribute to improved higher-education outcomes for girls.

- The state can activate the private sector to enable entry and re-entry of women in STEM education and occupations.

- There is a need to Provide a solid foundation early on so that women excel in STEM.

DAILY MAINS QUESTION

There has been a persistent issue of underrepresentation of women in STEM (Science, Technology, Engineering, and Mathematics) jobs despite calls for increasing their representation in the workforce. Comment