Mind the Gap: Policy, Discourse and Status of Women in STEM in South Asia

Introduction

This report aims to summarize and highlight the performance of South Asia as a region in comparison to other regions around the globe on the topic of '**gender gap'**. Categorically, the South Asian region is consisting of 8 countries, namely, Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka. World Economic Forum, 2023 states 4 primary gender gap indicators such as a) economic participation and opportunity, b) educational attainment, c) health and survival and, d) political empowerment. However, this report majorly revolves around the current status of women in STEM in South Asia by diligently utilizing statistical methods assessing literacy rates, enrollment numbers in various sectors of education, labour force participation and sectoral participation in STEM. Further, this review takes into account two other key questions like how women and their issues are presented in policy making and how much of financial recourses do these countries allocate to women's interests?

They have put forth a model named as 'Leaky Pipeline of Women in STEM', that draws a beautiful analogy of the pattern of women involvement in STEM to a leaky pipeline.
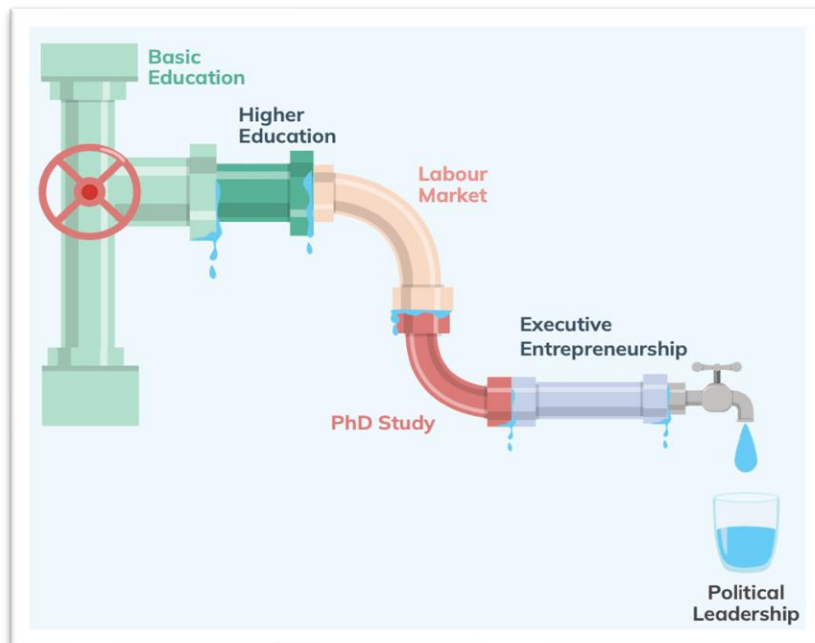
(Adapted from UNDP 2023)

The Global gender gap 2022 report calls out South Asian region for the lowest performance having bridged only 62.4% of its gender gap in 2022 (Bangladesh and Nepal were found to be leaders withing this region). Gross enrollment of females across primary, secondary and tertiary educational levels in South Asian countries clearly indicate a steep decline or a 'leak out' of women candidates from primary education to secondary, with the least numbers reported across almost a decade at the tertiary level of education.

With this general overview, we would like to draw our particular attention to the performance and status of women in STEM and the method and effectivity of policy making to solve problems women face in STEM in India in this short synopsis.

Key highlights of the analysis pertaining to India:

- ♦ **Education**
  - o In general, nearly 81.8 % of female's employment falls under informal sector, yet the share of women in the total informal work sector is much lower than that of men. Further, women continue to comprise a lower percentage of economy's active workforce (designated by LFPR). Also, even though women make up over 43% of STEM graduates in the country, their active involvement in STEM workforce is well below that of males.
  - o There is a distinct disparity in literacy rates between adult men and women, which is somewhat less steep when considering the younger population. The Gross enrollment ratio (GRE) at the primary and secondary level, show that female enrollment ratio (112.04%) was infact, marginally higher than the male counterpart (110.96%) (UNESCO Institute of Statistics). This ratio dropped for both the genders at the secondary level, where the little gaps in GRE over the past decade has been reduced to near marginal in 2022 (UNESCO Institute of Statistics). However, there is a heightened gender gap in GRE over the years at the tertiary education level, where surprisingly it's the women (33.4%) who show greater involvement in higher education than males (30.9%). However, India performs poorly for both male and female GRE, when compared to other regions of South Asia. Despite women accounting for higher STEM graduates in India (43%) (British Council), there is a 14% gap in enrollment in STEM higher education courses in India, where males heavily outnumber females (Baruah and Sahay 2022). Its reported that while female researchers only make 13.9% of total researchers in India (UIS UNESCO 2019), a whooping 58% of teachers in higher education comprises females (University Grants Commission 2021).

- ♦ **Employment and Career Opportunities**
  - o It has been reported that Labour force participation rate (LFPR) in India is extremely low for women and shows a continuous decline from 2007 to 2018. The gap between male and female LFPR in 2022 has been stark with an LFPR of 19.3% for females and 70.09% for males. However, the rate of unemployment in males (8.0%) was found to be higher than what it was for females (6.9%) in the year 2021.
  - o High dropouts of women in the process of transition from STEM education to STEM career has been a real demarcator of ever-growing disparity in the gender ratio. Out of 156 countries, India ranked 151st (World Economic Forum 2021) and 143rd out of 146 countries (World Economic Forum 2022), on the category of 'economic participation and opportunity' indicator on the gender gap index. India ranked 2nd on the index among world's top 20 countries with highest Tech CEOs, however the share of women CEOs in Tech companies is only 5% in India.

- o It is reported that 51% of entry level recruits constitute of women, whereas only 25% of managerial positions are occupied by women.
- o Statistics has shown that India has scored 74.4 out of 100 on the Women, Business and Law Index 2023, which is higher than the regional average (63.7 out of 100) across South Asia. Even though India's law and regulations received a perfect score on mobility (constraints on freedom of movement), marriage and workplace but has a very low score on indicators that measures laws affecting women's pay. The country also does not mandate equal remuneration for work of equal value (World bank 2023).

- ♦ **Discourse analysis of Policies on ascribed to women**
- o As per policy analysis drawn from India's Draft Science Technology and Innovation Policy 2020, Indian women population suffers from being treated as different from mainstream society. This exclusion in representation creates various issues which includes women being victimized rather than being treated as a part of mainstream society. This deepens the us-vs-them paradigm, leading to clubbing of disparate groups having very different needs and interest together. All of these shifts the focus from existing social structures and norms hindering actual induction of women in STEM fields. This devalues women's capabilities as well. Such biases in policy representation and practices causes a profound effect on lack of women inclusivity in STEM field. Therefore, as per India's Draft Science Technology and Innovation Policy 2020, a strong emphasis has been made on creating an inclusive culture for women in STEM.

- ♦ **Gender Responsive Budgeting (GRB) in India**
  - o GRB is a means of integrating a gender perspective in all steps of budget process to ensure that budget policies take into consideration the gender issue in society treating women and men indiscriminately. India implemented GRB in 2005-06 to allocate public finds for women-specific developmental programs. Its divided inti two broad categories: Part A comprising 100% Women-specific schemes (e.g., Indira Gandhi Nation Widow Pension Scheme) and Part B having 30% Women specific programs (e.g., Mahatma Gandhi national Rural employment Guarantee Scheme).
  - o However, India's gender budget has not seen any significant increase in the last 15 years (Khullar 2023). The allocation to gender budget as a proportion of the Union budget declined from 5.2% in FT 2022-23 to 5% in FY 2023-24 (Kasliwal 2023). But FY 2-23-24 saw a 2% increase in allocation to GRB from Revised estimates (RE) of FY 2022-23 (Kasliwal 2023).

Overall, inclusivity of women in STEM is crucial to improve and establish innovation, diversity in the field of research and development and to better represent the needs of the society.

Read More: https://ccs.in/sites/default/files/2023-04/Mind-The-Gap.pdf
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