Knowledge Report

Working Group on STEM

Table of Contents

G20 Empower Objective and Approach

We cannot afford to live in a world where scientific and technological solutions are desperately needed - yet exclude half of the world's talent. Women today are the greater 50 and it is imperative that they are an integral part of the growth of nations and productivity of companies. Between 40 million and 160 million women will need to transition between occupations by 2030, often into more skilled roles requiring more complex digital, cognitive, social, and emotional skills [1]. More girls are in school today than ever before, but they do not always have the same opportunities as boys to complete and benefit from an education of their choice. They are particularly underrepresented in **STEM education** (science, technology, engineering, and mathematics), and consequently, in STEM careers. This gender disparity is alarming, especially as STEM careers are often referred to as the jobs of the future, driving innovation, social wellbeing, inclusive growth, and sustainable development [2]. Encouraging the learning of STEM education empowers girls to cultivate a mindset of innovation, while simultaneously enhancing their proficiency in literacy and numeracy. Furthermore, it enhances their ability to develop transferrable skills that will enable them to thrive in a rapidly changing job market and entrepreneurial endeavours [1].

The **G20 EMPOWER Working Group on STEM** will work to bolster the participation of women in STEM as well as nurture and encourage a more equitable and inclusive ecosystem. The group has proposed the following focus areas for G20 Empowerment:

- **Mentors without borders:** A global mentoring platform to connect mentor and mentees to create a valuable and long-lasting network.

- **Corporate fellowships in STEM:** Corporates to introduce Fellowships for Women to pursue advanced qualification in STEM coupled with mentorship by corporate leaders for a minimum of 3 months.

- **Playbook for women-led tech start-ups:** Empower the system of financial inclusion, testing of technology and scaling/market skills of Tech Enterprises led by Women Founders. The stakeholders in the system such as VCs, financial institutions, market forces all need to be sensitised towards the specific needs of women entrepreneurs and balance the skewed process towards evaluation of women led enterprises.

- **Policy recommendations from learnings:** To complete the feedback mechanism and make the change permanent, it is important to include the policy makers, implement the learnings, and integrate best practices within institutions and corporates.

- **Communication strategy and social mindset change:** The learnings, best practices as well as voices of women need to be broadcasted and reinforced through a sustained process of messaging to the multiple stakeholders who support, encourage, and empower a balanced and equitable world, also who are part of the decision-making process.

- **Award for women achievers and empowering allies:** Introducing the Annual Award for extraordinary Women Achievers and allies who have contributed to empower women and break through gender barriers and foster an inclusive and equitable society.

Introduction

In 2020, the *World Economic Forum* published three notable facts highlighting the underrepresentation of women in science across the globe, with less than 30% of women researchers [3]. Additionally, a mere fraction of women opted STEM related fields in higher education with just 3% - 8% enrolling in information and communication technology, mathematics, statistics, engineering, and similar courses. A UNESCO 2017 study across 120 countries called *Cracking the Code: Girls' and Women's education in science, technology, engineering, and mathematics* [4] published that while there are more girls in science than before and overall access to education has improved, but there are still significant gender disparities to both access and participation in STEM related fields across higher education, graduate, and advanced degrees. Along with socio-economic and cultural challenges, the lack of interest in science is called out as a cause that deters girl students in pursuing STEM education. It becomes more apparent during secondary education and even more during higher education where only 35% of the total female student population pursue STEM related fields globally. There is a need for more supportive learning environments and tools which can boost the self-confidence and self-efficacy of girls, as well as awareness and education that can ensure more girls can pursue STEM careers.
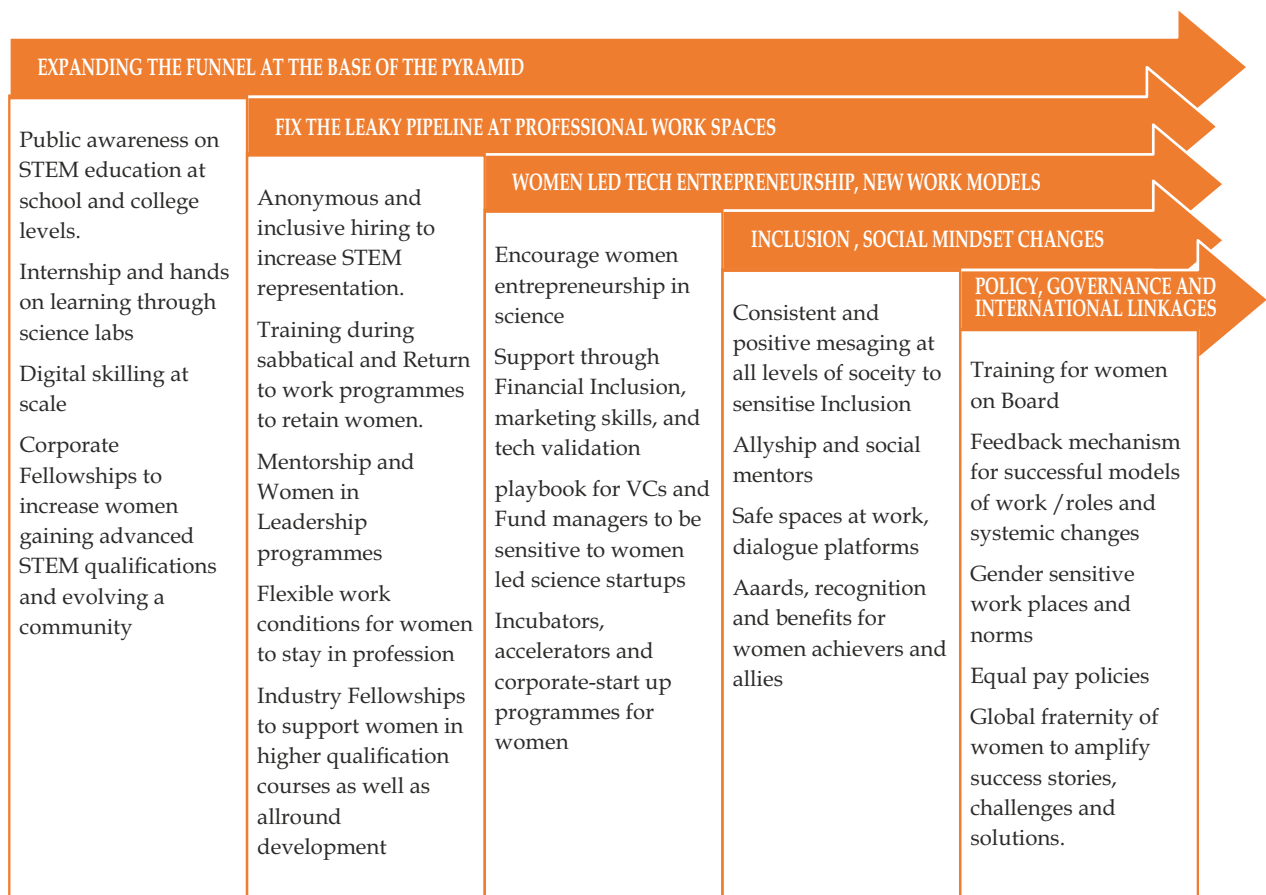
A 2023 white paper from LinkedIn, *Measuring Gender Gaps in the U.S. STEM Workforce* [5], demonstrated an outsized expansion of the gender gap in STEM-around 10%-point increase-occurred between graduation with a STEM degree and employment one year later. As women enter the workforce, they face many social, cultural, and gender based (including stereotypes, lack of role models) challenges. Gender disparities drive women and children away from science-related fields. The culture within organizations can either mitigate or accentuate societal conditioning and expectations around household responsibilities, childcare, eldercare, etc. A new working paper from LinkedIn found that the STEM gender gap can largely be explained by differences in choice of major, presence of local STEM workforce who are the same gender as the applicant, concentration of local STEM jobs, and the intensity in which new STEM graduates view and apply for jobs. The latter in

particular is suggestive of how women form expectations regarding their fit in the STEM workforce, barriers and discrimination they are likely to face if they choose to pursue STEM employment. These expectations tend to be more pronounced as they navigate life stage transitions such as marriage, maternity, and motherhood leading to withdrawals from careers. Once women join the workforce, organizational culture needs to be conducive and inclusive for career growth. It becomes imperative that there is a need for policies and practices that can provide the systemic support as women balance work and life.

A focused effort to increase and sustain women representation in STEM is significant since it paves the way for gender equality and respect for women's rights and provides them economic security. Ensuring that all fields including STEM have diverse representation means that the products and solutions care for a broader cross-section than just a narrow few. It is critical that women are represented equitably given the potential that STEM careers have to offer in terms of future jobs, drive innovation, inclusive growth, and sustainable development. It not only presents growth opportunities but is also an economic necessity.

Women in STEM: Five Pillar Approach to Increase and Sustain Women Representation in STEM

There is a need for a systemic approach that is integrative as well as holistic to increase and sustain women representation in STEM that can be implemented at an individual, institutional, and societal levels. The working group believes that the entire ecosystem needs alignment to women's general and specific skills, more empathy and a less skewed process across the board in various aspects such as qualifying, hiring and retaining women, and funding women led enterprises. The solutions can be aligned to the following pillars-

EXPANDING THE FUNNEL AT THE BASE OF THE PYRAMID

FIX THE LEAKY PIPELINE AT PROFESSIONAL WORK SPACES

WOMEN LED TECH ENTREPRENEURSHIP, NEW WORK MODELS

INCLUSION , SOCIAL MINDSET CHANGES

POLICY, GOVERNANCE AND INTERNATIONAL LINKAGES

EXPANDING THE FUNNEL AT THE BASE OF THE PYRAMID	FIX THE LEAKY PIPELINE AT PROFESSIONAL WORK SPACES	WOMEN LED TECH ENTREPRENEURSHIP, NEW WORK MODELS	INCLUSION , SOCIAL MINDSET CHANGES	POLICY, GOVERNANCE AND INTERNATIONAL LINKAGES
Public awareness on STEM education at school and college levels. Internship and hands on learning through science labs Digital skilling at scale Corporate Fellowships to increase women gaining advanced STEM qualifications and evolving a community	Anonymous and inclusive hiring to increase STEM representation. Training during sabbatical and Return to work programmes to retain women. Mentorship and Women in Leadership programmes Flexible work conditions for women to stay in profession Industry Fellowships to support women in higher qualification courses as well as allround development	Encourage women entrepreneurship in science Support through Financial Inclusion, marketing skills, and tech validation playbook for VCs and Fund managers to be sensitive to women led science startups Incubators, accelerators and corporate-start up programmes for women	Consistent and positive mesaging at all levels of soceity to sensitise Inclusion Allyship and social mentors Safe spaces at work, dialogue platforms Aaards, recognition and benefits for women achievers and allies	Training for women on Board Feedback mechanism for successful models of work /roles and systemic changes Gender sensitive work places and norms Equal pay policies Global fraternity of women to amplify success stories, challenges and solutions.

Pillars

PILLAR 1- Expanding the Funnel at the Base of the Pyramid

In widening the funnel, the focus has been on creating targeted interventions at different stages. This involved first engaging young students to stimulate their curiosity and then ensuring they maintain their interest in STEM-related fields. It is also imperative on organizations to be intentional about attracting, developing, and retaining women talent. There is also a need for coordinated action across a range of solutions at an individual, organizational, and societal levels to bring about a systemic shift.

Recommended action areas-

The only way to achieve a systemic transformation is through collective actions and combination of solutions. Furthermore, organizations must be deliberate when it comes to welcoming, nurturing, and retaining female talent.

- Schools and colleges need to **reimagine teaching STEM subjects** and ensure they are actively leveraging the latest technologies to teach and skill students. Teachers and educators can **make learning STEM subjects more creative, interesting, and fun** through experiential and hands-on activities, participating in hackathons and science competitions. They can partner with organizations to **create platforms for industry interaction** through field-visits that can give early exposure to role models and inspire students on the possibilities of a career in STEM.

  - o Industry and organization led outreach programs that focus on engaging with young girls on STEM careers and making science and technology fun (examples include: DigiGirlz, Girls who Code)

- Outreach programs can focus on **leveraging technology to scale digital skilling** for students both in urban and rural areas and supporting women entrepreneurs.

- At the societal level, there is a need to engage with parents and guardians of young girls and **raise public awareness** on the benefits of STEM education and careers.

- Organizations can make some of **the learning and training resources publicly available** to allow everyone create an environment that helps girls and women build a passion for, thrive in technology, and enable disrupt systemic and unconscious biases.

- Highlighting **inspirational stories** of women in STEM can inspire the next generation of aspiring girl students seeking STEM careers and women who are in technology and encouraging participation from men who can partner to inspire and motivate girl students to take up STEM.

PILLAR 2-Fixing the Leaky Pipeline at Professional Workspaces

The life course transitions can be career derailers for women and there needs to be broad-based systemic intervention along with targeted ones that can encourage women to learn and grow their careers in STEM. The policies, people practice, and benefits that organizations offer will create the required support mechanisms for women to remain in the workforce and sustain their careers through different stages of life.

Recommended action areas-

The organizations can implement policies and practices that encourages women to pursue STEM careers, create a supportive environment, and provide benefits that support their contribution in the workforce.

- **Industry-Led Mentoring** such as **Fellowships and mentoring across borders:** A gender-specific mentoring program can be set up that can provide practical, hands-on experience in STEM-related fields, from ideation to product launch. It can offer students exposure to latest tech trends and the opportunity to engage with expert practitioners. Mentors from across regions can provide one-to-one virtual and in-person mentoring throughout the program. An industry Fellowship for identifying and selecting girls, awarding fellowships to qualify in higher science degrees, and providing them with a 3- 6 month mentoring by the company leaders will help to create a pool of qualified women science professionals.

- Ensuring better gender representation entails being intentional about each step of the hiring process.

- The **hiring process** in organizations need to be constantly reviewed to ensure a **more equitable interview and evaluation process** (streamlining interview competencies, JDs (job descriptions) with inclusive language, targeted Women in STEM hiring events, Diversity slating and interview representation and more)

- University Recruiting should adopt an intentional approach towards diversifying the pool of universities they recruit from, **expanding beyond Tier 1 schools** and focusing and regional and specialization diversity.

- **The talent pool** needs to be diversified rather than just sourcing from incoming applications through Digital outreach, Referrals, Alumni Connects

- Providing **internships** are a major source of women talent

- A key contributor to the expansion of the funnel is attracting women who are returning to work. It is important to recognize what women face when they decide to **re-enter the workforce** after a break and opportunities to return to work can fuel increase in women representation in the private sector.

  - A Return-to-Work program can be designed keeping in mind the challenges and opportunities for women on a career break. Such as an internship program that can provide them with an opportunity to re-explore careers and gain on-the-job training as they transition back to the workforce.

- **Learning and capability building** are a crucial aspect for all genders including women to grow their careers. A modular curriculum as an **empowering women leaders' program** can be developed for women seeking to grow into either technical, management, and leadership roles with a focus on pivotal capabilities for women in STEM as shared below:

  i. First is **innovation and thought leadership.** It is the ability to demonstrate passion to solve problems and influence others, to recognize and respond to technological shifts, and act accordingly.

  ii. **Technical skills:** The global and multidimensional workplace today calls for multidisciplinary skills such as team building, communication, digital skills, negotiation, and arbitration.

iii. Then it is about **manufacturing success,** which is about building products with the highest quality and focusing on market adoption and ensuring customer satisfaction.

iv. **Women aspiring for leadership roles** require the right opportunities, mentoring and sponsorship. At an individual level, women can achieve this by learning to:

- Seek allies and accepting help

- Dealing with self-doubts through acknowledging inner fears and silence the inner critic

- Realizing that everyone's career journey is a function of their choices and constraints, and we need to own our choices

- There is also a need for **broad-based training scalable across the ecosystem** for teachers, parents, decision-making bodies, and others.

- Organizational support can also come from peer communities. Creating platforms for **building the women community** to come together, sharing challenges, and supporting each other becomes essential in developing and retaining women employees. **Women Employee resource groups** can provide career development, support, networking opportunities, mentoring, community participation, product input, and assistance in activities that promote cultural awareness worldwide through regional chapters. These chapters can serve as platforms for hosting seminars, speaker series, networking events, mentoring programs, and volunteer opportunities.

- One of the ways in which organizations can retain women employees in through **Systemic support through robust people-oriented practices, and benefits.**

i. A suite of **benefits** for employees and their families can be tailored to distinct stages that provide timely and relevant support for physical, mental, emotional, financial well-being including counselling and medical assistance.

ii. Even more important is the ease at which women employees can leverage the different leave options and a seamless transition back to work when they are ready. **Manager training and learning** needs to focus on creating a conducive climate for women to learn, grow, and thrive, as this is of paramount importance in retaining employees.

PILLAR 3- Women Led Tech Entrepreneurship, New Work Models

An excellent way of ensuring the increase of women in the productive employment is by encouraging women led startups. Since women at various points in their lives step back from active careers, but in a tech-enabled world running their own businesses allows them to utilize their time constructively and at their own pace. This approach provides women with a sense of achievement, and economic independence.

Creating 10X Women Founders In India

In a Study conducted by Zinnov [6] in cooperation with TiE (Delhi-NCR) The Indian Angel Network, Google and NetApp, some myth-busting outcomes have emerged which call for a systemic support of women entrepreneurs to result a 10x growth.

For one, women founders may have to wait longer to make critical hires due to societal stereotypes about a woman leader - which is one of the factors leading to a slowdown in their readiness to raise Series A. Additionally, women founders give high importance to achieving business metrics before approaching investors for Series A funding, which is also time-consuming.

Women founders have faced various **stereotypical myths** in the start-up ecosystem

- Society has various stereotypical myths that might be harmful to a women founders' entrepreneurial journey

Stereotypical Myths [6]:

- Myth 1: Women cannot build billion-dollar businesses

- Myth 2: Women do not start up outside the Retail Sector

- Myth 3: Women do not build B2B start-ups

- Myth 4: Women do not build DeepTech start-ups

- Myth 5: Women founders have lower odds of success

The start-up ecosystem has a long way to go to achieve gender equity

The Study observed three core challenges in achieving gender equity:

Challenge 1 [6]:

There is disparity in the percentage of women-founded start-ups

- The percentage of women founders starting up has been stagnant - with no significant increase

- Underrepresentation in tech and business is lowering women's odds of becoming founders

- Socio-cultural barriers hold back those with relevant backgrounds and the intent to start up

- Entrepreneurial intent of the Indian workforce is high, including women

- But gender roles make entrepreneurship a less viable career option for women

Challenge 2 [6]:

The funding amounts raised by female founders are not at par with their male counterparts

- Lower ticket sizes raised by women founders, has led to a significant funding gap

- Women-founded start-ups have fair representation in the number of deals but there is a notable gap in the deal amount

- The inequity comes from disparity in the ticket sizes of investments raised by women founders

Challenge 3 [6]:

Women-founded start-ups take longer to get ready to raise Series A

- 1 in 4 male founders raise Series A funding within the first 5 years of incorporation, while only 1 in 7 female founders raise the same stage of funding

- Complexities with hiring impact their readiness to raise Series A

- A strong start-up team is a critical part of investor decision-making a Series A

- But women founders are more likely to face challenges in setting up their teams

- Women founders may also prefer to wait and achieve concrete business metrics before approaching investors for Series A

- Women founders believe in demonstrating a viable business, a strong team and a clear plan for growth before investors, which could mean longer time to raise funds

  - Managing Partner of an early-stage venture fund

- Going beyond a certain number of customers is hard, needs interventions/pivots and time

  - Head of an accelerator focusing on women founders at Seed-stage

Recommended action areas-

Women should be given opportunities to thrive in the workplace and contribute to it while maintaining control over their careers.

- The system therefore needs to be aligned to the needs of women in enabling them to achieve their best.

- Women need supportive mechanisms in funding, marketing testing & validation as well as scaling up their businesses.

- The challenges that women face from male dominated VC (venture capitalists) organizations, supply chains and R&D (research and development) (research and development) ecosystems is well known and documented. We need to find solutions that address these challenges and propose as well as propagate an alternative framework that incorporates these gaps in the ecosystem and plugs them.

- Hence a playbook that provides mechanisms, tools and supportive structures will go a long way in kickstarting this process.

- Given the digitalized world, we can suggest new work models such as WFH (working from home) for researchers who can contribute by authoring reports, identification of work packages that women can take while on a sabbatical, different work hours, and participating in teams through digital models.

- Need to encourage and empower many more women based financial systems, women led businesses and startups as well as women focused incubators and accelerators.

PILLAR 4- Inclusion and Social Mindset Changes

Diversity and Inclusion becomes sustainable when it is deeply ingrained in the organizational culture, and it is also one of the biggest challenges. Most of the issues that we face in a majoritarian world start with social conditioning at an early age, reinforcement of mindsets, and poor social messaging.

Recommended action areas-

We need to provide a consistent, constructive, and positive communication strategy that addresses all levels of society to make a paradigm shift in the consciousness and awareness of inclusive and equitable behaviour.

- It begins with the home where children are raised to think differently, accept differences, respect others and be open and empathetic.

- It includes leaders **creating a psychologically safe environment for people** to speak up about their life experiences. They need to embrace a **mindset of continuous learning,** exhibit a willingness to adapt and make necessary changes, and serve as exemplars for their peers of an inclusive culture. Leaders can encourage employees to **deeply interrogate the systemic privileges** of majority groups and be willing to dismantle structural privilege that make it hard for underrepresented minorities to participate equitably in the workforce.

  - The focus on life experiences of successful mentors and role models is vital for empowering individuals to embrace their authentic selves and thrive in their professional endeavors. It is therefore important to emphasize the practice **of allyship** that encourages reflection, re-thinking, and relearning from past behaviors and approaches.

  - **Inclusive design** while building products and solutions begins with putting people in the center from the very start of the process, and those fresh, diverse perspectives are the key to true insight. Technology should ensure that inherent biases do not come into building the product.

  We need to develop a communication suite of positive, powerful, and consistent messages that can be shared widely with parents, teachers, employers, decision makers, policy makers and leaders.

  - **Awards, scholarships, and appreciation** can reinforce and encourage accomplishments women pursuing STEM careers across multiple fields. It can also include students in schools and colleges.

PILLAR 5- Policy, Governance, and International Linkages

Government can create laws and policies that promote gender equity and provide a framework for addressing gender-based discrimination and harassment in the workplace. Organizations and other standard bodies can play a leading role in influencing the governments with respect to policy making, governance, and workplace norms.

Recommended action areas-

The organizations and governments can demonstrate a commitment to creating a fair and respectful workplace by adopting antidiscrimination policies.

- **Equal pay policies:** Ensuring that women are paid the same as men for doing the same job is a crucial step in promoting gender equity in the workplace. This may involve the establishment of pay equity legislation, regular pay audits, and a commitment to transparency around pay practices.

- **Flexible work arrangements:** Providing flexible work arrangements, such as telecommuting or job-sharing, can help women balance work and caregiving responsibilities, and reduce the gender gap in employment and promotion opportunities.

- Companies can have **policies on hybrid and flexible working** that allows women to integrate work and personal priorities. Expansive set of policies be it paid time off, sick, or mental wellness leave, care giver, parental leaves, leave of absence and wellbeing days are crucial for women navigating life transitions.

- **Gender-sensitive workplace norms training and education** for employees and management on gender bias, harassment, and unconscious bias.

- **Establish standard workplace policies and norms** such as equal employment opportunity, Anti-Harassment and anti-discrimination policy, prevention of sexual harassment policy.

- Government and organizations can **fund programs** promoting training, entrepreneurship, skilling along with research on gender equity issues and more.

- The government can monitor progress on **gender equity and report** on outcomes to promote transparency and accountability. This can involve regular reporting on gender pay gaps, workforce diversity, and the representation of women in leadership positions.

- A suite of powerful, consistent, and positive social messages can be developed and shared widely to ensure that these messages are positioned at the right target audience including parents, teachers, employers, policy makers, and leaders.

Dedicate 3% of the 15% of the global corporate tax, decided by the G20 in 2021, to invest in gender equality in STEM education

- Develop mandatory STEM activities for girls, based on a playful and meaningful pedagogy, with the necessary digital equipment, to build their scientific identity starting from 5 years old.

- It is paramount to allocate USD 4,5 Billion per year for at least 10 years to fight against stereotypes and attract girls in STEM, in each G20 country.

- Implement mentoring and role-modelling programs by connecting students and successful women in STEM through specific national digital platforms.

- Establish quantified objectives to achieve gender parity in STEM higher education, by conditioning financial incentives on progress achieved.

- Deploy continuous training programs on gender equality in STEM for teachers and educational staff.

- Launch a national communication campaign #STEM4Purpose in each country to raise parents' and teachers' awareness, as well as girls' interest in STEM, involving influencers and through the most appropriate language and tools.

Build lifelong STEM training programs for women in the workforce in all sectors

- Create an appropriate multi-stakeholder alliance involving public and private sectors, as well as Academia and NGOs, to construct STEM training programs.

- Ensure a national outreach, including to unemployed women, coordinated by public agencies through a dedicated digital tool.

- Provide incentives to companies recruiting from this pool of female talents and encourage their employees to participate in these programs.

- Entrust Universities, social enterprises, start-ups, and NGOs with conceiving and delivering STEM training for women.

- Capitalize on this proactive alliance to favour the acquisition of new competences for women through upskilling and cross-skilling programs.

All the above-mentioned actions and outcomes will not be effective and sustainable if the loop is not closed with the policy changes and feedback mechanism being completed.

- Policy makers should mandate affirmative action's leading to increase of women in decision making positions such as Board positions, women as CEOs (Chief Executive Officers), and women start up leaders. This calls for Training systems for Women on Board and regulatory interventions.

- The Feedback mechanism for successful models of work /roles and systemic changes should be institutionalized and audited regularly.

- Gender sensitive workplaces and norms should be legislated and amplified. CSR (Corporate Social Responsibility) funds should be allowed for implementing women-cantered outcomes particularly support of women led entrepreneurship.

- Equal pay policies have been identified as one of the key blockades in the path of increasing women participation in the workforce. It erodes value, and self-esteem and propagates as well as reinforces a skewed and non-inclusive professional environment. Appropriate Legislation needs to be brought as a corrective measure to encourage companies to think differently.

- The issues facing women are similar all over the world, and yet there are many good examples of successful measures, innovative solutions, and serious challenges. A Global fraternity of women to amplify success stories, challenges and solutions is much needed to keep up the pressure and the momentum to stay on course and take corrective action every time and everywhere.

- A global conference, many cross-border workshops and a sustainable digital platform allowing for constant dialogue between women and their allies would support the cause and give it the attention and seriousness it deserves.

Global Best Practices for Women in STEM

Education and Outreach:

- **The African Girls Can CODE** Initiative was established by UN Women, the International Telecommunication Union (ITU), and the African Union Commission; AGCCI works to empower girls across Africa by helping them learn digital and information technology skills and opening them up to a technology career path. The AGCCI is a four-year initiative with the goal of empowering young African girls and women between the ages of 17 and 20 to work as programmers, designers and innovators creating computers and encouraging more girls and young women to pursue studies and careers in the ICT field industry [7].

- **Germany:** Initiatives like **"Girls' Day,"** "Klischeefrei," and "Komm, mach MINT" aim to boost the proportion of women in STEM disciplines by giving women a better awareness of these professions [8]. For instance, on Girl's Day, STEM businesses and organizations open their doors to female students so they can complete a one-day internship in a STEM field.

- **Netherlands:** The Nationaal Techniekpact 2020 (National Technical Pact) explicitly aims to improve the flow of students to technical (STEM) jobs by focusing on 'talent development' and 'career guidance'. Recognizing that very few girls and women enter the STEM space (only 14% of technical positions in the Netherlands are held by women), the strategy also has a special focus on reducing gender bias in the industry and stimulating interest from a young age [9].

Skilling Initiatives:

- **International Labour Organisation:** The ILO's Women in STEM Workforce readiness program, funded by JPMorgan Chase Foundation, provides women with critical STEM related skills to increase their employability, career advancement and improve workplace productivity in the Philippines, Indonesia and Thailand. The program promotes public-private collaboration to design and jointly deliver trainings to address the skills needs within industry and to build the capacity of Technical and Vocational Education and Training (TVET) systems to deliver STEM related trainings.

Corporate best practices for Women [6]

Morgan Stanley's Return to Work program has enabled experienced women with long career breaks to take up senior leadership/top management roles. A 12-week paid internship program for women with a career break of two years or more, that offers full-time job opportunities, relevant skill training, and flexible arrangements for women. The selection criteria are tied to vacant job roles to match returnees with positions relevant to their experience. **More than 70%** of interns have accepted full-time roles. This initiative was recognized by the Women Returnee Programs Award and conferred by Jobs4Her for the last four consecutive years. It is also a largest returnship program within Morgan Stanley across the world.

URJA Program: SE India launched URJA Program to retain and advance the careers of junior and mid-level women employees. The program is designed to build critical capabilities such as self-awareness, work impacting personal time, financial well-being, etc., which are essential for women's success in the workforce. Participants are assessed pre- and post-program to establish a baseline for the desired outcomes and measure progress across these themes. As of today, more than **600 women** have been empowered through this program, and more than **35%** have been promoted within two years after completing it.

Stanford-VMware Leadership lab provides foundational research to organizations in overcoming nuanced challenges that women encounter. The lab focuses on foundational research in operational areas such as hiring and performance evaluation - areas where unintentional bias in decision-making is the most likely to impact women.

She Builds video series highlights stories of mission-driven female founders to inspire more women to pursue entrepreneurship. She Builds has showcased stories of **11 women** developing new technologies, categories, or business models while overcoming personal and professional obstacles. The stories are narrated to make entrepreneurship relatable to a wider group of women and girls.

The series was launched by Sequoia India & Southeast Asia in association with National Geographic India and is available on Disney+ Hotstar and across National Geographic's digital platforms.

TiE's Special Interest Group for Women Entrepreneurs (SIGW) identifies and brings to fore women founders in niche areas. TiE Delhi-NCR, in collaboration with Power2SME announced the Spirit of Manufacturing Award to identify and recognize women founders who had successfully driven innovation in the manufacturing space. The TiE BIRAC WInER Award, presented by TiE Delhi-NCR in collaboration with Biotechnology Industry Research Assistance Council (BIRAC), recognizes women who are working towards developing innovative products and businesses.

WEP built an **'open-to-all' platform** to support women across the nation to kickstart their start-up journey. This platform provides a unified knowledge repository of resources, runs offline initiatives, outreach programs to inspire more women to pursue entrepreneurship and promotes peer learning by encouraging women founders to share their journeys. Also offers services and knowledge resources to founders across five focus areas: funding and financial assistance, business incubation and acceleration, compliance and tax assistance, skilling, and market linkages. There are more than **29,400 women registered,** over **330 knowledge bank resources, 200+ partners on board,** and more than **130 women founders** have benefited from this program.

The WEE Foundation is leveraging India's STEM education ecosystem to assist its pool of women founders. The WEE Foundation is leveraging the support and infrastructure of premier technology institutes in India to implement its programs on a large scale for a huge mass of women founders. These institutes offer classroom facilities, mentoring faculty and incubation centers for prototyping to support founders. A total of **15,000 women** have registered, over **800 mentors** have volunteered, and Indian Women Founders have been awarded **INR 2.5Cr+** in grants.

Open Capital is helping women founders become investment-ready through a multi prolonged approach. It helps women founders navigate the capital-raising process and make optimistic projections, unlocking their potential for greater

success. A total of **USD 1 Bn+** of capital fundraising has been facilitated, and **40%** of the capital raised goes to startups founded or co-founded by women.

Encubay Angel Network fosters an inclusive ecosystem by uniting like-minded investors who prioritize inclusivity. It is a community of high-net worth individuals who invest in early-stage start-ups. They provide funding, mentorship, and support to help founders grow their businesses. Over **30 investment partners, 500+ female founders, 50+ industry experts** and **80% of startups** are founded by women.

She Capital has raised an all-India women-focused fund and is supporting founders to generate high returns. The fund's thesis is to demonstrate the potential of women founders and show that their businesses generate equal or higher ROI than their male counterparts. Since the fund has to support women-founded start-ups exclusively, it ensures it builds its pipeline. To do this, it provides support that helps founders become investment-ready, including a Resource Hub, Knowledge Modules, and a Together Initiative designed to address women founders' specific challenges. As of today, **eight investments** have been made, **64%** of the employees are women, and over **42,000** women founders have been helped.

Google for Startups systematically transitioned its program to cater to women founders. It has launched a program specifically focused on women founders under the original program (India Accelerator for Seed to Series A tech start-ups) umbrella, with programming adaptations to solve for challenges faced by women founders. There were more than 400 women applicants in the first cohort.

NetApp made programmatic adaptations to attract and support women founders. This program facilitates business and technology mentorship provided by entrepreneurs, industry experts, and investors. As of today, **11 women led DeepTech startups** are being mentored.

The Sequoia Spark Fellowship is a mentorship and fellowship program launched by Sequoia India and Southeast Asia to support aspiring women founders in the region. There are fewer women in tech and entrepreneurship in India and South-East Asia compared to the number of women graduates. This is because women in these regions face obstacles like limited access to capital, networks, knowledge, and mentorship. To address this, Sequoia India & SEA launched a 4-month fellowship program.

Immediate Outcomes as part of the G20 India Leadership:

Award for Women Entrepreneurs and Researchers

It is envisaged to institute an award for Excellent Women Researchers and Women entrepreneurs and facilitate their mobility as well as partnership with other institutions. International research organizations and corporates could offer to host the Indian Women STEM awardees in its Labs and provide mentorship and project collaboration opportunities. The Indian Government will bear the cost of the Women STEM Awardees. This can be expanded to include other countries, and also be a two-way process in a later stage. The first pilot project and partnerships are being worked out.

Collaborative platform

In order to maintain the momentum gained during the G20 Leadership, it is important to create a permanent and sustainable platform that will facilitate the create of a community of women STEM leaders/practitioners and their allies, encourage matchmaking and support mechanisms, be a repository of mentors, advisors, and leaders across the globe, and also inform about best practices, activities and events.

References

[1]   "Reimagining-girls-education-through-stem-2020," [Online]. Available: https://www.unicef.org/media/84046/file/Reimagining-girls-education-through-stem-2020.pdf.

[2]   "Girls' and women's education in science, technology, engineering and mathematics (STEM)," [Online]. Available: https://www.unesco.org/en/gender-equality/education/stem.

[3]   World Economic Forum, "Global Gender Gap Report 2020," [Online]. Available: https://www3.weforum.org/docs/WEF_GGGR_2020.pdf.

[4]   UNESCO, "Cracking the Code: Girls' and Women's education in science, technology, engineering, and mathematics," [Online]. Available: https://unesdoc.unesco.org/ark:/48223/pf0000253479.

[5]   M. Baird, "Measuring gender gaps in the U. S. STEM workforce," [Online]. Available: https://economicgraph.linkedin.com/content/dam/me/economicgraph/en-us/PDF/measuring-gender-gaps-in-the-us-stem-workforce.pdf.

[6]   Zinnov in partnership with TiE Delhi NCR, Google, Net App and Indian Angel Network.

[7]   UN Women Africa, "African Girls Can Code Initiative (AGCCI)," [Online]. Available: https://africa.unwomen.org/en/where-we-are/eastern-and-southern-africa/liaison-office-to-au-and-uneca/african-girls-can-code-initiative-agcci.

[8]   United Nations educational, Scientific and Cultural Organization, "Boosting gender equality in science and technology," [Online]. Available: https://unevoc.unesco.org/pub/boosting_gender_equality_in_science_and_technology.pdf.

[9]   TECHNIEKPACT, "INSTROOM," [Online]. Available: https://www.techniekpact.nl/thema/instroom.

[10]   Best practices contributed by G20 member countries on working group of women in STEM, Microsoft and Zinnov.

Vasudhaiva Kutumbakam

ONE EARTH · ONE FAMILY · ONE FUTURE