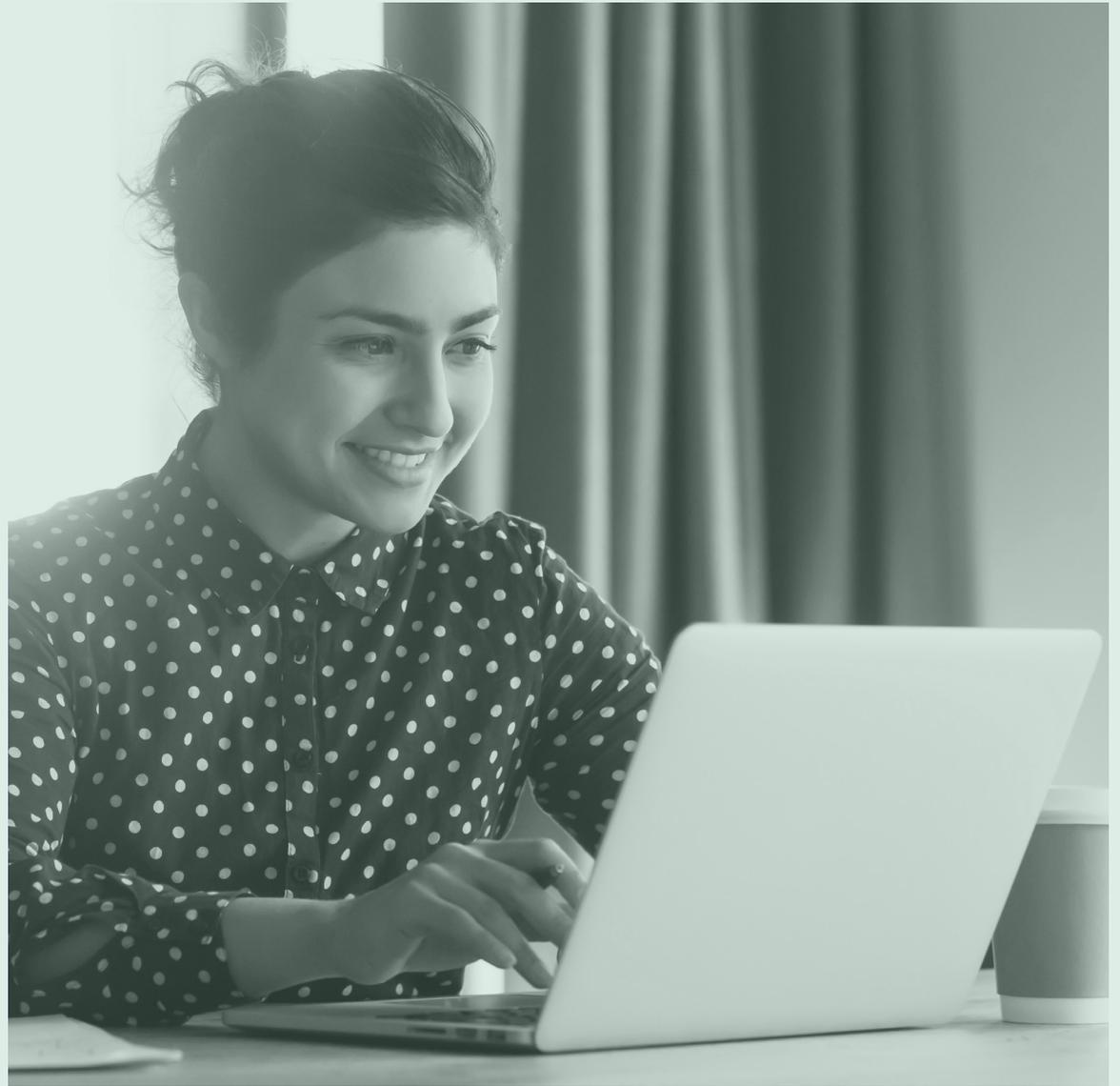


# Practical Strategies to Catalyse Women-led Access-to-Energy Ventures in India



<p><b>Acknowledgements (03)</b></p>	<p><b>A Summary of Solutions (13)</b></p>	<p><b>Conclusion (62)</b></p>
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<p><b>How to Read this Report (12)</b></p> <ul style="list-style-type: none"> <li>• Understand the challenges for women's success as A2E entrepreneurs in India (12)</li> <li>• Explore solutions with the power to disrupt inequitable gender trends (12)</li> </ul>		

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## Abbreviations

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**A2E** : Access-to-energy

**DFID** : Department for International Development

**DST** : Department of Science and Technology

**EDP** : Enterprise development programme

**GOI** : Government of India

**HCD** : Human-centered design

**IIT** : Indian Institute of Technology

**IIM** : Indian Institute of Management

**INR** : Indian Rupees

**ISB** : Indian School of Business

**MOOC** : Massive open online course

**R&D** : Research and development

**ROA** : Return on assets

**ROE** : Return on equity

**ROS** : Return on sales

**SDG** : UN Sustainable Development Goal

**SGBs** : Small and growing businesses

**STEM** : Science, technology, engineering,  
mathematics

## Why Invest in Women-led Access-to-Energy Ventures in India?

Female entrepreneurs are critical contributors to economic growth and vitality. Women are sole or joint proprietors of about one-third of formal businesses globally.<sup>1</sup> Evidence suggests that women-owned firms have important contributions to society and the economy: women tend to start businesses with greater emphasis on social impact goals compared to men.<sup>2</sup> While exact figures are elusive, women-owned businesses generate income for women, which is thought to increase investments in education and healthcare at the family level.<sup>3</sup> Women may also be more likely to diversify their talent and supplier base than men who lead businesses staffed with and sourced from majority male talent. Economies harnessing female talent are ultimately more inclusive and productive. Women's entrepreneurship is therefore a promising source of wealth creation and women's advancement with potential ripple effects on families, communities, and societies more broadly.<sup>4</sup>

According to the entrepreneurial framework conditions captured by the Global Entrepreneurship Monitor, India is the top-performing factor-driven<sup>5</sup> economy. This means compared to similar economies (i.e., those that rely heavily on natural resource endowments and unskilled labour), entrepreneurial conditions in India are relatively favorable in terms of: financing, government policies, taxes and bureaucracy,

government programs, school-level entrepreneurship education and training, post-school entrepreneurship education and training, R&D transfer, access to commercial and professional infrastructure, internal market dynamics, internal market burdens, access to physical and services infrastructure, and socio-cultural norms around entrepreneurship.<sup>6</sup>

Yet the distribution of these beneficial conditions has not proven gender equitable, leading to gender gaps in business activity across the country: for example, a female-to-male ratio of 0.62 for total early-stage entrepreneurial activity.<sup>7</sup> The gap extends to all sizes and stages of ventures: women comprise just 11% of all business owners in India, ranking the country at 52 of 57 economies benchmarked by the Mastercard Index of Women Entrepreneurs—among the lowest scoring of lower-middle income markets. The 2018 Report finds that women in India have very few opportunities to become business leaders or professionals, and experience low cultural regard and weak engagement in the workforce, as well as greater bias in entrepreneurial activity than men. Women also tend to start smaller businesses that experience lower growth. Analogous to similarly ranked economies like Egypt or Malawi, women in India are also more likely than women in other regions to discontinue their businesses due to unprofitability or lack of finance.<sup>8</sup>

*But do women entrepreneurs underperform?*

<sup>1</sup> Kelley, D. J., Baumer, B. S., Cole, M., Dean, M., & Heavlow, R. (2017). Women's Entrepreneurship 2016/2017 Report (Global Entrepreneurship Monitor). Global Entrepreneurship Research Association; Global Entrepreneurship Monitor (2018). Global Report: 2018/19. Global Entrepreneurship Research Association. Available at: [www.gemconsortium.org/report](http://www.gemconsortium.org/report)

<sup>2</sup> Hechavarria, D. M., Terjesen, S. A., Ingram, A. E., Renko, M., Justo, R., & Elam, A. (2017). Taking care of business: the impact of culture and gender on entrepreneurs blended value creation goals. *Small Business Economics*, 48(1): 225–257.

<sup>3</sup> Lamoy, J. (2010). Investing in Women and Girls: The Breakthrough Strategy for Achieving all the MDGs (A).

<sup>4</sup> Du Rietz, A. & Henrekson, M. (2000). Testing the Female Underperformance Hypothesis. *Small Business Economics*, 14(1), 1–10; Zolin, R., Stuetzer, M., & Watson, J. (2013). Challenging the female underperformance hypothesis. *International Journal of Gender and Entrepreneurship*, 5(2), 116–129; Robb, A. M., & Watson, J. (2012). Gender differences in firm performance: Evidence from new ventures in the United States. *Journal of Business Venturing*, 27(5), 544–558; Kobeissi, N. (2010). Gender factors and female entrepreneurship: International evidence and policy implications. *Journal of International Entrepreneurship*, 8(1), 1–35.

<sup>5</sup> Factor-driven economies principally compete based on their factor endowments, such as unskilled labour and natural resources, and are heavily enabled or disabled by their institutions, infrastructure, and macroeconomic context. See: Schwaub, K. (2017). The Global Competitiveness Report 2017–2018. World Economic Forum. Available at: [www3.weforum.org/docs/GCR2017-2018/05FullReport/TheGlobalCompetitivenessReport2017%E2%80%932018.pdf](http://www3.weforum.org/docs/GCR2017-2018/05FullReport/TheGlobalCompetitivenessReport2017%E2%80%932018.pdf)

<sup>6</sup> Entrepreneurial framework conditions assessed by the GEM are: financing, government policies, taxes and bureaucracy, government programs, school-level entrepreneurship education and training, post-school entrepreneurship education and training, R&D transfer, access to commercial and professional infrastructure, internal market dynamics, internal market burdens, access to physical and services infrastructure, and social and cultural norms. See: Global Entrepreneurship Monitor (2018). Global Report: 2018/19. Global Entrepreneurship Research Association. Available at: [www.gemconsortium.org/report](http://www.gemconsortium.org/report)

<sup>7</sup> Global Entrepreneurship Monitor (2018). Global Report: 2018/19. Global Entrepreneurship Research Association. Available at: [www.gemconsortium.org/report](http://www.gemconsortium.org/report)

<sup>8</sup> Mastercard (2018). Mastercard Index of Women Entrepreneurs (MIWE) 2018. Available at: [newsroom.mastercard.com/wp-content/uploads/2018/03/MIWE\\_2018\\_Final\\_Report.pdf](http://newsroom.mastercard.com/wp-content/uploads/2018/03/MIWE_2018_Final_Report.pdf)

## Gender barriers to starting up

Globally it is estimated that women own about 30% of firms with fewer than five employees, around one-third of firms with 5-49 employees, and only about 25% of firms with 50-250 employees in developing countries.<sup>9</sup>

They also tend to cluster in sectors that are less profitable such as retail, beauty and food service. However within a sector, when benchmarked against all entrepreneurs operating businesses of a similar size, women business owners tend to perform as well or better.<sup>10</sup> Thus, differences in overall venture outcomes for women and men may be less related to underperformance of female entrepreneurs, and more indicative of structural differences in business size and growth potential in the industries where women founders concentrate, and related, less access to finance and smaller investment sizes. Gender shapes each of these structural and cultural dimensions of entrepreneurship.

While male entrepreneurs in India may also face systemic constraints like poor infrastructure or heavy regulation, women may be more exposed or have fewer resources to overcome them. For example, smaller businesses

tend to be disproportionately affected by regulations, and women-owned firms tend to be smaller. Numerous cultural limitations impinge on specifically women's entrepreneurial activity, for example thinner networks and subsequent lack of access to information and opportunities. Women also tend to have less flexible time due to household, child and elder care responsibilities, and experience other market constraints related to the construction of gender in society, like mobility norms that dictate who is allowed to go where, by what means, with whom, and when.

The expectation of male predominance in business can impact women psychologically. Longstanding acceptance of men's leadership in India often impedes women's sense of agency, or personal ability to make and act upon important decisions. Therefore many women will not feel capable of founding a venture in the first place. The energy sector is among the most male-dominated, as STEM fields (science, technology, engineering and mathematics) are traditionally seen as male domains. Often tied to this gender stereotype is the implicit assumption that women entrepreneurs cannot compete in STEM sectors. This exacerbates the psychological challenges during business start-up phase, leaving many women entrepreneurs in doubt of their STEM capabilities and belonging in the sector. Low representation of women in energy further compounds the pressure that many female owners of small and growing businesses (SGBs) feel to 'prove themselves' above and beyond male SGB owners in order to succeed.<sup>11</sup>



<sup>9</sup> Fox, L. (2016). Women-owned enterprises. UNHLP on Women's Economic Empowerment

<sup>10</sup> GEM (2018); Hechavarría, et al. (2017); Kelley (2017)

<sup>11</sup> Wang, M. & Degol, J. (2017). Gender Gap in Science, Technology, Engineering, and Mathematics (STEM): Current Knowledge, Implications for Practice, Policy, and Future Directions. *Educational Psychology Review* 29 (1):119-140.  
Available at: <https://link.springer.com/article/10.1007/s10648-015-9355-x>

Critically, research at the individual level shows that – controlling for individual context and business characteristics – psychological factors are the strongest predictors of successful business start-up.<sup>12</sup>

As Shankar et al. (2019) state:

“Perceptions of self and environment are key to social change because change starts with individuals who believe in themselves enough to take on challenges, learn new things, and persist in the face of impossibility, lack of social support, and ultimately self-doubt. It takes an incredible amount of ingenuity and determination to successfully navigate and grow a business in any market, even more so in environments with unsupportive gendered social norms and expectations.”

In addition to seeding self-doubt, gender biases recreate barriers to entry and growth for women entrepreneurs when they are internalised by investors and ecosystem actors, as well as other entrepreneurs. Such notions perpetuate unequal access to capital. Despite the fact that Indian ventures with women on their founding teams are significantly more likely to experience prior-year revenues, GALI data (2018) reveals that these companies are more successful at raising philanthropic funds than investment funds.<sup>13</sup>

Ventures with female “1st founders” were 75% less likely to attract equity investment than ventures with a male 1st founder and 29% less likely to attract debt investment.<sup>14</sup>

This trend may reflect ecosystem-wide biases regarding the financial viability of women-led ventures—a perception often held in India and around the world, both consciously and unconsciously.

Therefore, it is essential that enterprise development organisations specifically design programmes to not only enhance the capacity of female entrepreneurs but eliminate biases in the ecosystem. As the following recommendations demonstrate, EDP staff must facilitate women’s connections to other resources, entrepreneurs, industry specialists, and investors. Investors must also begin to value female-led companies more accurately, gathering and sharing more balanced data with the power to level the playing field and reduce risk perception in the wider ecosystem. And finally, other key stakeholders in the government and private sector must foster an enabling environment for female energy entrepreneurs to access the financing and support needed to create and grow their businesses.

<sup>12</sup> Arenius & Minniti (2005); Elam (2008); GEM (2017).

<sup>13</sup> GALI (2018). ICRW analysis of Entrepreneurship Database Program data.

<sup>14</sup> ICRW Analysis of GALI 2018 Entrepreneurship Database Program data.

## Empowering women venture leaders for more inclusive businesses and economies

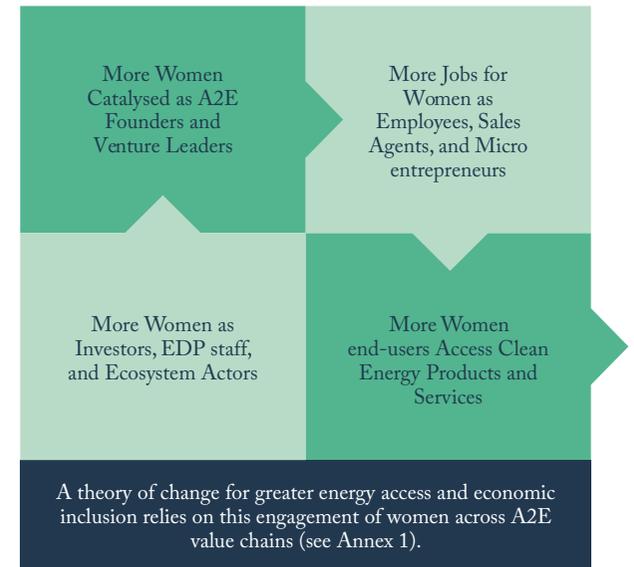
Incubating and accelerating women as entrepreneurs boosts the likelihood of their early entrepreneurial success in the energy sector, helping close gender gaps in venture leadership and economic participation. When the predominately male entrepreneurial ecosystem—including enterprise development programmes (EDPs), investors, and government partners—becomes aware and supportive of women’s needs as venture leaders, it will more effectively cultivate and elevate female talent.

A gender lens is especially valuable in catalysing A2E ventures but can empower women to succeed in any industry.

Women venture leaders who successfully build and scale their businesses may have knock-on effects for women at other junctures in the value chain, such as hiring more women in their own workplaces, sourcing from more gender-diverse suppliers, and leveraging women in their distribution model. Female business leaders may also enhance cognitive diversity in the industry and invite other gender insights, such as including women’s substantive input in R&D and marketing, ensuring products and services are designed and promoted in ways that appeal to women and men. For A2E businesses, which often target women end-users in their emerging market product lines, this lens is vital for building demand and achieving customer loyalty.

## Promoting gender equity as a strategy for expanding energy access

Innovations in the energy sector are needed to bring access to some one billion people who live without modern electricity and three billion who rely on wood, coal, charcoal, or animal waste for cooking and heating.<sup>15</sup> Yet to successfully scale access-to-energy (A2E) products and services, sustainable energy demands a wider entrepreneurial talent pool, and unlocking female talent is a vital part of this equation.



Women across A2E value chains are critical to addressing the energy access challenge of our time (see Annex 1). The power to penetrate entirely new markets makes women’s entrepreneurship—and subsequent diversity gains in their companies, supply chains, and customer reach—a necessary strategy for enabling last mile communities to access innovative technologies. Renewable energy ventures also align well with the social values and motivations that women entrepreneurs so often exhibit.

<sup>15</sup> World Bank (2018). Tracking SDG 7: The energy progress report. Washington, D.C. [https://trackingsdg7.csmmap.org/data/files/download-documents/tracking\\_sdg7-the\\_energy\\_progress\\_report\\_full\\_report.pdf](https://trackingsdg7.csmmap.org/data/files/download-documents/tracking_sdg7-the_energy_progress_report_full_report.pdf)

## Why this research

Adopting similar theories of change, a growing share of entrepreneurial actors agree that women must be intentionally included to achieve business success and development outcomes. Yet enterprise advisors and investors often fail to source women, feel apprehensive about using an explicit gender lens in their work, or are unaware of how to start.

Learning through practice, Shell Foundation and DFID India have been pioneers in supporting women-led energy ventures.



The partnership launched the POWERED (Promotion of Women in Energy Related Enterprises for Development) Programme in 2018 to enhance the potential for women's leadership and workforce participation in the Indian energy sector by building systems and structures that are sustainable and replicable.

Its main objectives are related to:



**Jobs:** Creating sustainable livelihood opportunities for women across the energy value chain



**Microenterprises:** Creating women micro-entrepreneurs through asset ownership to increase provision of energy products & services



**Start-ups:** Supporting early stage women-led start-ups developing disruptive scalable solutions in the energy sector



**Research:** Undertake research, capture evidence, and disseminate learning and insights with key stakeholders

As part of this programme, the POWERED Accelerator is managed by Zone Start-ups and funded by DFID India (UK Government), Shell Foundation (UK Registered Charity), and DST Government of India. As India's first EDP at this intersection, the POWERED Accelerator aims to support selected ventures to expand their innovative and consumer-responsive services, products, and financing. Its ultimate goal is to increase economic empowerment of women-owned businesses in the energy space, spurring a powerful role model effect in the sector. Since 2018, the POWERED Accelerator has served

two cohorts of female entrepreneurs in A2E or energy-related applications. The partnership investigated and integrated insights from the first POWERED pilot into its second cohort, improving the EDP's effectiveness and building the capacity of 20 women-led enterprises thus far.

The current research is an extension of the POWERED Programme, aiming to promote a more inclusive ecosystem through not only the work of Shell Foundation, but other funders, EDPs, investors and advisors with the power to disrupt limiting gender norms and biases. ICRW conducted research on enterprise development programmes in India and throughout the world, investigating how other incubator and accelerator programmes support female-led ventures and providing recommendations on how the ecosystem can be strengthened to more effectively catalyse women-led ventures.

As this research evidences, women face business hurdles irrespective of the industry. Most challenges crosscut sectors; ultimately only four recommendations emerged specific to catalysing A2E ventures in India. Ecosystem actors emphasizing other fields or working across sectors may find the following practical strategies useful as well —especially those in male-dominated sectors or contexts with lower cultural regard for women's entrepreneurship.

## Challenges and solutions

---

Considering recent data on entrepreneurship in India, as well as new interviews and survey responses from EDP managers, government agencies, and women entrepreneurs themselves, the research identified four challenge areas:

### Challenge 1



Women entrepreneurs are not participating in EDPs at equal rates as men.

### Challenge 2



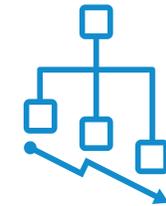
Female entrepreneurs often do not have access to the same services and networks that male entrepreneurs do. In addition, services provided by EDPs are often not tailored to the needs of female entrepreneurs.

### Challenge 3



Investment gaps persist in women-led and co-led ventures.

### Challenge 4



Government of India (GOI) programmes have limited impact on female entrepreneurs, as deserving women-led ventures are not accessing or benefitting optimally from many GOI schemes.

The report then poses possible solutions to these challenges, addressed to three main categories of actors: EDPs, investors, and government partners. Of the 35 strategies identified for EDPs and ecosystem actors, there are 17 high impact recommendations that can be implemented in the next cohort or year. These have varied outcomes and resource requirements which readers can consider before piloting.

For example, an energy-focused EDP that is interested in increasing gender balance among venture leaders within its cohorts might start with Recruitment and Selection strategies. However, the organization may not be ready to mobilize maximal resources to achieve this outcome. While supporting girls' STEM education and pre-incubation programming has high impact potential to increase the number of female applicants, the timeframe for results is longer and will require a greater investment from the EDP. In the meantime, staff can pilot other lower resource solutions in the very next cohort, such as using proactive sourcing and recruitment strategies, gender targets, and inclusionary screening criteria to identify women-founded or co-founded ventures for which women actually make decisions.

To address the second challenge, EDPs should ensure female entrepreneurs have wider access to vital networks and resources, by providing high quality Services tailored with a "gender lens." These strategies ensure each programme offering is of optimal use for women,

in some instances necessitating modifications to content or delivery style, and in others calling for logistical accommodations like localized trainings or provision of childcare. High impact, low resource programme solutions include emphasizing personal empowerment by offering sessions on building personal agency; creating women-only spaces; and introducing female role models. EDPs can also facilitate in-depth, relevant mentorship with an eye to gender inclusion and compatibility when pairing mentors and mentees.

Among the most stringent of barriers to venture growth for women is Access to Finance, making it a key area for high impact interventions. Solutions to that may be immediately integrated include working directly with women entrepreneurs to enhance their skills for securing debt and equity finance; for example supporting them to refine their pitch through direct training, coaching and practicing. EDPs can also mission-align, sensitize, and build capacity in investors to more accurately value female-led ventures and adopt strategies for increasing investment in women. For example, EDPs can equip ecosystem actors to conduct more objective valuations of female-led ventures by training investors to recognize and avoid unconscious bias, and developing a scorecard with standardized criteria for screening energy enterprises. Through explicit partnerships with investors, EDPs may sync operations and create an investment fund to launch programme participants. Staff can also catalyse

A2E entrepreneurs by connecting them with market opportunities through private sector or government partners that can serve as suppliers or buyers.

Since many deserving women-led ventures are not accessing or benefitting optimally from existing Government Schemes in India, EDPs can further raise awareness on GOI-sponsored credit programmes to help ventures grow, and facilitate connections to large state-run energy projects that can expand the customer base for women-led enterprises that are ready to scale.

## Understand the challenges for women's success as A2E entrepreneurs in India

Considering recent data on entrepreneurship in India, as well as new interviews and survey responses from EDP managers, government agencies, and women entrepreneurs themselves, the research identified four challenge areas that are slowing progress towards gender equality in energy entrepreneurship:



Women entrepreneurs are not participating in EDPs at equal rates as men.



Female entrepreneurs often do not have access to the same services and networks that male entrepreneurs do. In addition, services provided by EDPs are often not tailored to the needs of female entrepreneurs.



Investment gaps persist in women-led and co-led ventures.



Government of India (GOI) programmes have limited impact on female entrepreneurs, as deserving women-led ventures are not accessing or benefitting optimally from many GOI schemes.

## Explore solutions with the power to disrupt inequitable gender trends

The report then poses possible solution areas to address these challenges. While most recommendations are directed to EDP staff, whose core function is to catalyse entrepreneurs, some are geared towards investors and other partners from the private sector and government, including several strategies that can be implemented by multiple actors. Readers from any group can begin with the Summary Table (page 13) to explore practical strategies their field can undertake as part of the solution.

Solutions are organized under the challenge they address, and subsequent strategies marked with several additional icons based on high-level analysis of the general task.

### These indicate:

The **relative time frame for implementing the strategy**; that is, whether it is a change that could immediately be made in the next EDP cohort, or will likely take more than five years to implement and produce results.



Its **degree of potential impact** on the goal of increasing successful women entrepreneurs in India.



The relative **intensity and complexity of resources** implementers would need to mobilize.



The extent of its **gender focus**. While all are likely to benefit women entrepreneurs, gender-agnostic practices are equally good for all enterprise leaders; while others disproportionately benefit women, who often do not otherwise have access to these services/networks; and still other practices are gender-specific, exclusively benefitting women.



These icons are explained in the following Key.

## Summary Table Key

The solutions in the Summary Table are further organized by highest impact potential and lowest resource requirement. For EDPs and ecosystem actors looking to start right away with gender-smart improvements, an opportune way to begin is to identify in this order several cost-effective strategies that are implementable in the next cohort or year.

### Time Frame to Implement

 **Short-term:**  
In the next cohort or year

 **Ongoing**

 **Long-term:**  
5+ years

### Potential Impact

 High impact on the goal of more successful women entrepreneurs in India

 Modest impact on the goal of more successful women entrepreneurs in India

 Impact is specifically on A2E entrepreneurs

### Resource Intensity

 **High:** Expensive or complex to coordinate

 **Medium / Varies:**  
See explanation in strategy

 **Low:** Inexpensive or simple to mobilize resources / people

### Gender Focus

 **Gender-agnostic:** General good practice with neutral benefits for all entrepreneurs

 **Disproportionately beneficial to women:**  
General good practice that disproportionately benefits women, who often don't otherwise have access to these services/networks

 **Gender-specific:** Strategy exclusively benefits women

## Challenge 1: Women entrepreneurs are not participating in EDPs at equal rates as men

### RECRUITMENT AND SELECTION

Solution:

#### 1A) Tailor Recruitment to Women

Practical Strategy

1. Use proactive sourcing and recruitment strategies, gender targets, and inclusionary screening criteria to identify women-founded or co-founded ventures for which women actually make decisions. (p. 29)

Ecosystem Actor(s)

~ EDPs

Time Frame:



Potential Impact:



Gender Focus:



Resource Intensity:



Solution:

#### 1A) Develop a Pipeline of Female Energy Entrepreneurs

Practical Strategy

1. Support girls' STEM education and pre-incubation programming. (p. 27)

Ecosystem Actor(s)

~ EDPs, ~ GOI

Time Frame:



Potential Impact:



Gender Focus:



Resource Intensity:



Solution:

#### 1A) Address Societal Barriers

Practical Strategy

1. Generate community support for female entrepreneurship through hosting community fairs, leveraging male ambassadors to promote female entrepreneurship, and adding an introductory programme component that involves securing family buy-in for female participation in a particular EDP. (p. 28)

Ecosystem Actor(s)

~ EDPs, ~ GOI

Time Frame:



Potential Impact:



Gender Focus:



Resource Intensity:



Varies: Depends on the intensity of the activity: adding an intro session for an EDP that involves families requires few resources, but conducting a female entrepreneurship campaign may require greater resources

## Challenge 1: Women entrepreneurs are not participating in EDPs at equal rates as men

### EDP DESIGN

Solution:

#### 1B) Design for Female Entrepreneurs:

Practical Strategy	Ecosystem Actor(s)	Time Frame:	Potential Impact:	Gender Focus:	Resource Intensity:
1. Consider an explicit programme focus on women. (p. 32)	~ EDPs	⌚	🎯	♀	₹↓
2. Implement customized support for later stage ventures. (p. 39)	~ EDPs	⌚	🎯	♀	₹↑
3. Localize trainings in-person, then leverage supplemental remote support. (p. 36)	~ EDPs	⌚	🎯	♀	₹↑
Varies: Remote support requires investment to develop resources and less to maintain; in-person requires more resources					
4. Utilize some sectoral focus to facilitate connections and shared learning. (p. 38)	~ EDPs	⌚	🎯🎯	♀	₹↓
5. Establish cohorts of entrepreneurs from similar stages and locations. (p. 39)	~ EDPs	⌚	🎯	♀	₹↓
6. Develop a set curriculum for early stage start-ups. (p. 39)	~ EDPs	⌚	🎯	♀	₹↓

## Challenge 2: Female entrepreneurs often do not have access to the same services and networks that male entrepreneurs do. In addition, services provided by EDPs are often not tailored to the needs of female entrepreneurs

SERVICES					
Practical Strategy	Ecosystem Actor(s)	Time Frame:	Potential Impact:	Gender Focus:	Resource Intensity:
<p>Solution:</p> <p>2) Ensure Female Entrepreneurs Have Access to Vital Networks and Resources:</p> <p>1. Create a lab or partner with IITs or other facilities to provide access to labs and technical expertise for prototyping. (p. 42)</p>	<p>~ EDPs, ~Universities ~Private sector partners</p>				
<p>Varies: Creating a lab would be resource-intensive, but partnering with an existing facility would require few resources</p>					
<p>2. Provide support with business plan and strategy development. (p. 42)</p>	<p>~ EDPs</p>				
<p>3. Provide customized consultancy services and connections to key industry contacts. (p. 43)</p>	<p>~ EDPs</p>				
<p>Varies: If the EDP directly provides the support it can be resource-intensive; if the EDP provides connections or discounts with external service providers, it is less resource-intensive</p>					
<p>4. Facilitate in-depth, relevant mentorship. (p.43)</p>	<p>~ EDPs</p>				
<p>Varies: Some EDPs pay experts to serve mentors, this can be resource-intensive, but also ensures their commitment; just seeking individuals to volunteer as mentors is less resource-intensive, but may be less effective</p>					
<p>5. Emphasize personal empowerment by offering sessions on building agency; creating women-only spaces; and introducing female role models. (p. 44)</p>	<p>~ EDPs</p>				
<p>Medium: May require creation of new curriculum units/speakers, etc. as part of the EDP's service offering</p>					
<p>6. Create platforms for community building and peer networking. (p. 45)</p>	<p>~ EDPs</p>				

## Challenge 3: Investment gaps persist in women-led and co-led ventures

### ACCESS TO FINANCE

Solution:

#### 3A) Finance Ventures Directly

Practical Strategy

1. Directly provide philanthropic, debt, or equity capital to entrepreneurs. (p. 47)

Ecosystem Actor(s)

~EDPs as Investors

Time Frame:



Potential Impact:



Gender Focus:



Resource Intensity:



Solution:

#### 3B) Work With Women:

Practical Strategy

1. Support entrepreneurs to refine their pitch through direct training, coaching and practicing. (p. 49)

Ecosystem Actor(s)

~ EDPs

Time Frame:



Potential Impact:



Gender Focus:



Resource Intensity:



2. Connect entrepreneurs with investors through one-to-one introductions and demo days. (p. 49)

~ EDPs



3. Connect entrepreneurs with market opportunities through private sector or GOI partners that can serve as suppliers or buyers. (p. 48)

~EDPs, ~GOI  
~Private sector partners



4. Create a live entrepreneur- investor database. (p. 49)

~ EDPs



5. Assist entrepreneurs in determining the type of finance best suited to their current stage and needs. (p. 48)

~ EDPs



## Challenge 3: Investment gaps persist in women-led and co-led ventures

### ACCESS TO FINANCE

Solution:

#### 3C) Work With Investors:

Mission-align, sensitize, and build capacity in investors to more accurately value female-led ventures and adopt strategies for increasing investment in female-led ventures.

Practical Strategy	Ecosystem Actor(s)	Time Frame:	Potential Impact:	Gender Focus:	Resource Intensity:
1. Encourage investors to adopt “positive screens” for gender-inclusive businesses. (p. 53)	~EDPs	6M	◎	♀	₹↓
2. Or, train traditional investors to conceal applicants’ gender when screening enterprises. (p. 53)	~EDPs, ~Investors	6M	◎	♀	₹↓
3. Train investors to recognize and avoid unconscious bias, and conduct objective valuations, e.g. scorecard with standardized criteria for screening energy enterprises. (p. 51)	~EDPs, ~Investors	6M	◎	♀	₹↓
Medium: May require creation of training program/classes specifically for investors and creation of standardized tools/scorecard for investors to use when evaluating enterprises					
4. Identify investors with missions and levels of financing that align with entrepreneurs’ needs. (p. 51)	~EDPs, ~Investors	6M	◎	♀♂	₹↓
5. Encourage investment firms to enhance diversity internally as a strategic priority, e.g. through setting targets to increase parity between male and female investment officers. (p. 53)	~EDPs, ~Investors	5+	◎	♀	₹↓

### Challenge 3: Investment gaps persist in women-led and co-led ventures

#### ACCESS TO FINANCE

Solution:

#### 3D) Sync Operations:

Partner explicitly with investors for sustainability of the EDP and synergy in the ecosystem.

Practical Strategy

Ecosystem Actor(s)

Time Frame:

Potential Impact:

Gender Focus:

Resource Intensity:

1. Create an investment fund to invest in ventures that participate in the EDP. (p. 56)

~EDPs, ~Investors



2. Directly partner with investors to fund the EDP. (p.55)

~ EDPs



## Challenge 4: Government programmes have limited impact on female entrepreneurs, as deserving women-led ventures are not accessing or benefitting optimally from many GOI schemes

### GOVERNMENT SCHEMES

Solution:

4A) GOI can intentionally design and market enterprise support programmes for women, and take measures to ensure implementation partners effectively serve female entrepreneurs.

Practical Strategy	Ecosystem Actor(s)	Time Frame:	Potential Impact:	Gender Focus:	Resource Intensity:
1. Train banking agents on objectives and requirements of credit mechanisms. (p. 59)	~ EDPs, ~ GOI				
2. Collect and publicize gender-disaggregated data. (p. 59)	~ GOI				
	Ongoing: Requires immediate action with long-term commitment to data collection and publishing			Medium: May require mobilization of resources and/or creation of new mechanisms	
3. Ensure the most-deserving entrepreneurs are the beneficiaries of “women-led” affirmative mechanisms through conducting interviews and intensive due diligence to verify women are truly in decision-making roles within applicant enterprises. (p. 60)	~ GOI				
		Medium: may require mobilization of resources and/or creation of new mechanisms			

## Challenge 4: Government programmes have limited impact on female entrepreneurs, as deserving women-led ventures are not accessing or benefitting optimally from many GOI schemes

### GOVERNMENT SCHEMES

Solution:

4B) EDPs can help women leverage services provided by GOI programmes and schemes.

Practical Strategy	Ecosystem Actor(s)	Time Frame:	Potential Impact:	Gender Focus:	Resource Intensity:
1. Facilitate connections to large state-run energy projects to enhance enterprises' customer base. (p. 60)	~ EDPs, ~ GOI	6-12	High	Male	High
2. Advocate for policies that create an enabling environment for female entrepreneurs. (p. 61)	~ GOI	5+	Medium	Female	Medium
Medium: May require creating an advocacy campaign and/or coalition to advocate for policy change					
3. Partner with university programmes to leverage academic resources, networks, and expertise. (p. 61)	~EDPs, ~GOI ~Universities	6-12	Medium	Male	High
4. Help female entrepreneurs access the credit mechanisms and ecosystem benefits provided by the GOI through educating them on the resources/ services that exist and making connections where necessary. (p. 60)	~ EDPs, ~ GOI	6-12	Medium	Female	High

## Research Methodology and Summary of EDPs Interviewed

To gain a better understanding of the types of support and services enterprise development programmes are providing in India, as well as what they find most effective, ICRW conducted key informant interviews (KIIs) with EDPs. While the team focused on those based in India, they also conducted KIIs with several EDPs from other parts of the world that have an explicit focus on women, in order to explore what additional services or structures are most effective for female entrepreneurs. Further, an online search and interviews with representatives of GOI programmes helped the team understand the role of the government in creating an enabling environment for female entrepreneurs. The research also included a brief survey with EDPs and conducted a background literature review to learn more about best practices in enterprise development.

Further background literature was reviewed pertaining to success factors for female entrepreneurs. To better understand the needs of women leading ventures, and explore what gaps exist between support currently provided those in demand with their needs, the team also conducted an online survey and KIIs with a few female entrepreneurs.

### Data collection activities

- 23 KIIs with EDPs
- 2 KIIs with GOI officials
- 4 KIIs with female entrepreneurs
- Surveys with EDPs and entrepreneurs
- Background literature review

The statistics below summarize some of the key features of the programmes researched. Of the EDPs interviewed:

#### General

- 2/3 represented organisations that only implement programmes in India, while 1/3 operate programmes in India as well as in other parts of the world.
- 45% were categorized as incubators, 41% as accelerators, and 14% as other programmes.

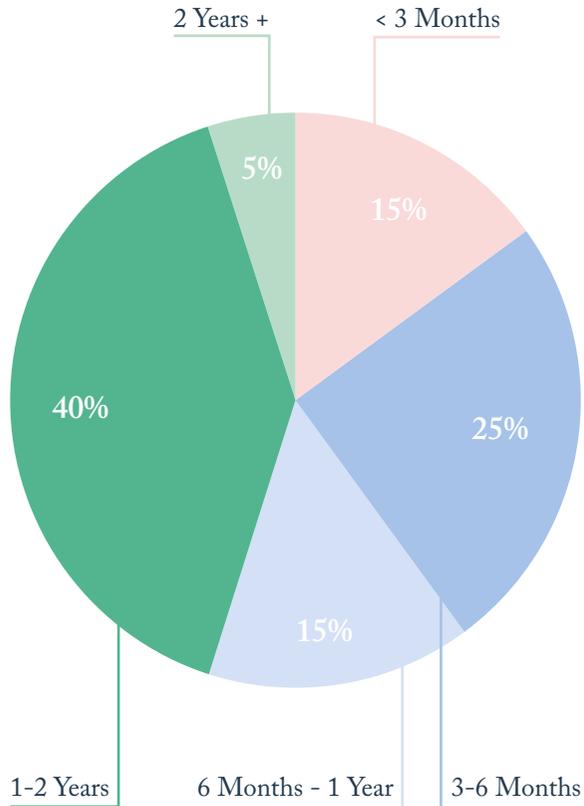
#### Focus

- While organisations were selected for their track record of hosting A2E ventures in their EDPs, over half of the programmes had an explicit focus on access-to-energy. This included 45% that have offered at least one programme specifically targeting energy entrepreneurs, and 9% that exclusively focus on developing A2E ventures.
- Nearly 1/3 of the programmes in India had an explicit focus on women entrepreneurs.

#### Format

- 20% of programmes provide support in-person, 5% provide support virtually, and 75% provide a combination of in-person and virtual support.
- 16% of programmes use a set curriculum, 42% provide customized support, and 42% use a combination of the two.
- The majority of programmes offered some form of support over a period of 6 months to 2 years. This is longer than findings from ANDE data in India, in which the majority of programmes were 3 to 6 months. More research is required to understand whether the EDPs interviewed tend to offer a more intense programme, are longer term but provide more intermittent support, or if those featured in the ANDE data set are “lighter touch” on average.

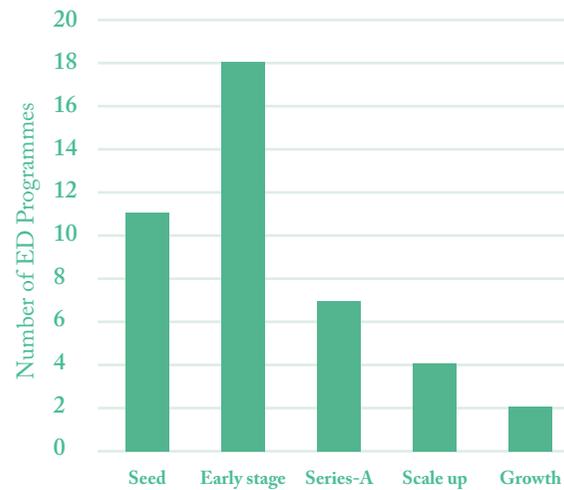
## Length of Program



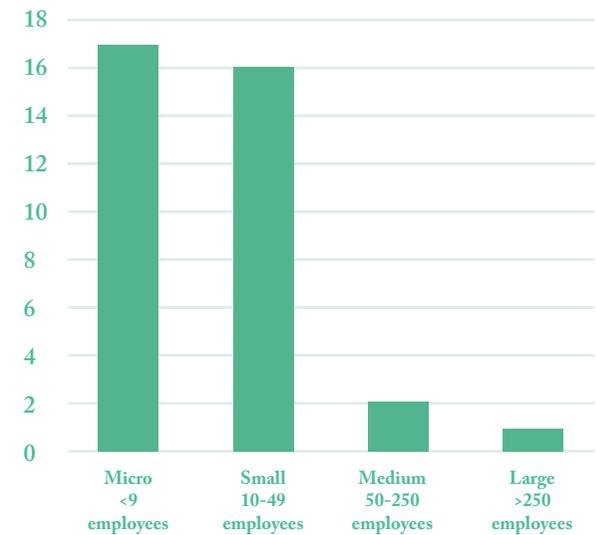
## Ventures that participate

The majority of companies participating in these EDPs were early stage and were micro or small in size.

### Business Stage of Companies Targeted



### Size of Companies Targeted



Using the information gathered on good practices and opportunities to optimize support for women, the following compilation solutions are recommended for enterprise development programmes, investors, government programmes, and partnerships between these various entities.

## Enterprise development programmes (EDPs) play a vital role in incubating and accelerating women-led ventures on their journey to business success.

A commitment to gender equity and social inclusion in EDP design and implementation may involve targeting applicants and tailoring services to entrepreneurs who are women or members of marginalized groups, which enhances the likelihood of funding for often over-shadowed ventures.

GALI research confirms that accelerator programmes with an explicit focus on women and other minority groups have been able to effectively identify these ventures and drive funding to them by helping investors to access them. A focus on these ventures, and their subsequent funding, enables an EDP itself to successfully achieve the outcome of net equity growth for participants. *In fact, 80% of high-performing accelerators<sup>16</sup> prioritized women and minority entrepreneurs, compared to 59% of low-performing accelerators.<sup>17</sup>*

When GALI further investigated this phenomenon, EDP managers pointed to the motivation of women and minority entrepreneurs, who have often already overcome considerable structural barriers. Indeed, underrepresented start-up leaders are perceived as extremely driven and ripe for future success. Acceleration (and successful funding) of women-led, co-led, and minority-led ventures may also be linked to the performance of enterprises with diverse leadership, as outlined above.

At the individual level, a woman may be equally or more equipped than a man to start-up her particular venture; yet in aggregate, Indian women are starting up energy businesses less often, and beginning their entrepreneurial journeys from a disadvantaged starting point. Enterprise development organisations that overlook gender as a factor risk excluding high-potential women from participation and investment. Those that utilize gender-smart strategies in EDP recruitment and tailor their services in implementation can ensure women-led and co-led ventures have equitable support in every business stage to grow and thrive.

<sup>16</sup> Those with a higher net flow of funds to participating ventures, compared to the average change in financial resources for ventures rejected from the accelerator. Low-performing accelerators do not increase the net flow of funds to participants compared to rejected ventures.

<sup>17</sup> GALI. (2018). Accelerating the flow of funds into early stage ventures. GALI. Available at: <https://www.galidata.org/assets/report/pdf/Accelerating%20the%20Flow%20of%20Funds%20into%20Early-Stage%20Ventures.pdf>

## Challenge 1:

### Women entrepreneurs are not participating in EDPs at equal rates as men.



Societal drivers create hurdles to recruiting and selecting equal numbers of women and men for participation in energy-related EDPs. When attempting to source high-potential entrepreneurs, organisations are faced with lower absolute numbers of women, especially in STEM (science, technology, engineering, and/or mathematics) and STEM-adjacent roles. Fewer women in the energy sector results in part from earlier educational streaming.<sup>18</sup> Gender differences in the subjects, quality, and years of students' education are the consequence of (a) stereotypes around masculine and feminine domains of work, and (b) unequal investment in and academic support to girls and boys in schools and homes. During adolescence, these social norms and practices may cause girls to drop out of school or lead them to deflated confidence and self-selection out of STEM subjects by secondary age.<sup>19</sup> In India, this translates to women's lower enrollment and completion rates of tertiary studies in Indian Institutes of Technology (IITs). For example, a technology business incubator (TBI) affiliated with one IIT estimates that women comprise just 10-11% of the university's graduates, a reality that complicates gender targets in the TBI's cohorts.<sup>20</sup>

For women who do complete studies in STEM subjects, many face gender bias and bottlenecks that slow or deter them from entering a related professional field or endeavor.<sup>21</sup> Most commonly cited in interviews was women's limited professional networks, necessary for entering and navigating a relatively opaque field like India's energy sector. An EDP that incubates exclusively energy-related enterprises has emphasised this concern:

“Women often fail to enter the energy sector because they lack the connections. There are even fewer women leading ventures here than other industries.”

Even for women with STEM training, their transition to working in the sector is not always encouraged by their support networks. Culturally, young women tend to participate in decision-making as one of numerous members of their family or household, rather than as an independent entrepreneur or professional. Under this arrangement women may be tasked with greater domestic responsibilities and expectations than male

counterparts, who are near invariably encouraged to earn. Despite the economy's organization around profit maximization or reaching one's highest potential, the principle of altruism prevails in the home, which is largely carried on the shoulders of women.

<sup>18</sup> UNESCO (2017). Cracking the Code: Girls' and women's education in science, technology, engineering and mathematics (STEM). Paris: UNESCO. Available at: <http://unesdoc.unesco.org/images/0025/002534/253479E.pdf>

<sup>19</sup> Wang et al. (2013). Not lack of ability but more choice: Individual and gender differences in choice of careers in science, technology, engineering, and mathematics. *Psychological Science*, 24 (5): 770-775.

<sup>20</sup> Key informant interview.

<sup>21</sup> World Bank (2019). Women in STEM: Promoting Women's Employment in Infrastructure Sectors – A Global Compendium of Good Practices. Publication forthcoming. Washington, DC.

In a typical Indian family, even when a woman engages in paid work, most decisions regarding her time, role, and expenditure of income from her work are made not solely based on her own preference, but on the family's priorities, including care and domestic responsibilities.

Family expectations often mirror societal pressures for educated women to “settle down” rather than participate in the workforce, particularly for middle- and upper middle-class women who have in recent years been retracting from labor pools in India's urban areas.<sup>22</sup> Less than 30 percent of working-age women are currently in work compared to almost 80 percent of men, with urban women, married women, and women from higher castes less likely to participate than their counterparts (i.e., rural women, single women, women from lower castes).<sup>23</sup>

The main supply-side factors are rising household incomes and husbands' education as well as the falling selectivity of highly educated women.<sup>24</sup> Gender attitudes driving women to withhold their labor indeed affect STEM-qualified women from IITs, as well as graduates of Indian Institutes of Management (IIMs) where women are enrolling at higher rates but remain the minority.<sup>25</sup>

For STEM- or management-trained women who are seeking full-time employment, a majority are encouraged to pursue salaried positions for greater

job security. Respondents confirmed the widely-held value of formal wage employment over self-employment at this critical point on the career arc, citing immediate income to repay student loans, more regular hours, and the provision of timely benefits like parental leave. Altering the perception (and reality) of risk for young professionals and their families remains an obstacle and opportunity to attracting more female entrepreneurs into the space.

Beyond the low levels of women applying to EDPs are added challenges in selection for participation. With fewer female trailblazers providing representation in the field, women-led A2E enterprises may be the subject of bias or skepticism. Programme staff, partners, and investors may unconsciously perceive the ventures of women applicants as less viable or more likely to stay small, which has an impact on the female proportion of applicants selected and funded. Another challenge is the limited support to rural or non-English speaking applicants, which may characterize many potential female applicants if programmes target Tier 2 or 3 cities.

<sup>22</sup> Klasen, S. (2017). Low, stagnating female labour-force participation in India. Available at: <https://www.livemint.com/Opinion/vgO1ynMV6UMDnF6kWSZ3VJ/Low-stagnating-female-labourforce-participation-in-India.html>

<sup>23</sup> Sharma, S. (2019). Why are so many women absent from India's workforce? The Independent. Available at: <https://www.independent.co.uk/life-style/india-women-workforce-education-womens-rights-culture-marriage-employment-a8915011.html>

<sup>24</sup> Klasen, S. & Pieters, J. (2015). What Explains the Stagnation of Female Labor Force Participation in Urban India? World Bank Economic Review, Vol. 29(3): 449-478. Available at: <https://elibrary.worldbank.org/doi/abs/10.1093/wber/lhv003>

<sup>25</sup> Verma, P. (2019). The class of 2021: Gender diversity gets a big boost at IIMs. The Economic Times; July 12, 2019. Available at: [//economictimes.indiatimes.com/article/show/70169120.cms?utm\\_source=contentofinterest&utm\\_medium=text&utm\\_campaign=cppst](https://economictimes.indiatimes.com/article/show/70169120.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst)

## Recruiting and Selecting Women

While EDPs may recognize the advantages of targeting women-led and co-led ventures, a very real challenge persists in sourcing female entrepreneurs in India. Finding and enrolling high-potential women specifically in A2E presents an added filter on cohort targets that many programmes find difficult to satisfy.

### Solution 1A:

#### EDPs can boost the number of women applying and utilize proactive recruitment strategies to surmount barriers and bias against female applicants

There are a number of strategies EDPs can employ to increase the pool of female applicants representing A2E ventures. Their relevance and effectiveness will vary depending on the existing pool and context. Ultimately solutions to enhance women's application and enrollment into incubator and accelerator programmes should be designed based on the EDP's target objectives and assessment of the particular needs of potential female candidates in that region.

*Develop a pipeline of female energy entrepreneurs by supporting girls' STEM education and pre-incubation programming.*

“One cohort of all women doesn't solve the problem of few female energy entrepreneurs. We have to promote women more from a supply perspective, to bring more women into the enterprise pipeline.”<sup>26</sup>

Pipeline development initiatives address shortages in female entrepreneurial talent by closing gender gaps earlier in the education and preparation journey. Early exposure can override gender norms and stereotype threat to effectively promote girls' interest in STEM education. This may include, for example, partnerships with primary and secondary schools to explain why STEM subjects are important and share about the career path of an energy entrepreneur, or sponsorship of girls to attend tech-related bootcamps during school holidays.

In India, investment in STEM education is already happening through government, non-profit and private sector initiatives. Some noteworthy organizations leading this effort include STEM Learning (a social enterprise), the STEM Foundation (supported by the National Council of Science Museums, within the Ministry of Culture), and the Department of Science and Technology. The Asia South Pacific Association for Basic and Adult Education (ASPBAE) has also been focusing on STEM education, while the Atal Tinkering Labs under the NITI Aayog programme works directly with schools. Energy sector stakeholders and other STEM advocates should further engage the Ministry of Human Resource Education to promote STEM education in schools in line with the growing demand, which girls and women will be essential in filling. Since there is currently no gender mainstreaming in such initiatives, the focus of this advocacy should not only be to increase the scope of such initiatives, but also to introduce a gender equity focus, so that luminary programmes (and eventually, broader societal norms) encourage girls to take up STEM.

Pre-incubation programmes can also cultivate an innovative mindset in young women who may have previously had limited information on the start-up process or the utility of an EDP. Whether conducting

<sup>26</sup> Interview: Manager of a corporate energy EDP

sessions independently or in partnership with business and technology institutes, EDPs can host former accelerator participants, businesswomen, and other female role models in the energy sector to share their own personal and professional narratives. Sessions also allow time and a low-pressure, safe space for curious women to pose questions about entrepreneurship to the speakers and EDP staff. Activities that grant girls and young women exposure to new ideas and “success stories” help expand their own business aspirations and entrepreneurial self-concept so they can begin imagining themselves as the future leader of a successful venture.

*Address societal drivers by generating community support for female entrepreneurship.*

EDPs can further empower young women to break stereotypes by raising awareness in the broader community on women’s freedom and capacity to achieve success in both STEM fields and entrepreneurship. Hosting community fairs and adding an introductory programme component to secure family buy-in are two ways organizations can foster support for female participation in EDPs. Male ambassadors may be especially influential in such initiatives. Engaging men to deliver these messages may help ease conformity to rigid gender norms and lessen the start-up risk perception among parents, spouses, and women themselves. EDPs should also maintain a database of interested students and young professionals from pipeline and outreach initiatives, with whom they may circulate announcements and news of upcoming programmes.



*Recruit women by using proactive sourcing and recruitment strategies, gender targets, and inclusionary screening criteria to identify ventures for which women actually make decisions.*

Targeted recruitment efforts will differ depending on the programme design, aspects of which are discussed further in the next section. Basic good practices for attracting women to apply include ensuring staff are inclusive, and reducing barriers to application such as awareness and costs.

### **Be gender-inclusive as an EDP staff:**

1. Hire more female EDP staff.
2. Sensitise staff on the existence of unfair biases against women in STEM, business, and finance.
3. Train staff on opportunities to enhance gender equity and social inclusion in selection and implementation of the EDP, including controlling for biases and providing application support for women where needed.

### **Address gender barriers to application:**

1. Find women by going to them and communicating through their preferred channels. Women can only apply to programmes they know about. Market EDPs through diverse networks such as women's groups and universities. Advertise in rural areas through non-digital platforms. Offer outreach materials and introductory sessions like seminars or massive open online courses (MOOCs) in vernacular languages.
2. Reduce costs of participation by offering free, subsidized, or gender equitable pricing schemes for participation in the EDP.
3. Reduce risk perception by advertising any such support that might make women's participation more possible, such as programme discounts, living stipends, transportation vouchers, coworking space subsidies, prototyping grants, childcare, etc.
4. Make the process woman-friendly. In the marketing phase women may be interested in the EDP but feel intimidated or hesitant to apply. Ensure staff are encouraging and reserve judgment, answering any questions and offering suggestions for strengthening concepts or applications. Simplify the process by writing out clear steps and providing direct application support for those who may be entering India's start-up space for the first time.

To further catalyse entrepreneurs residing in the last mile, EDPs may also link to existing mass development programs of the Government, for example the National Urban Livelihoods Mission and National Rural Livelihoods Mission, which leverage the vast infrastructure of Indian Self-Help Groups and their federations. EDPs can tap these local networks to promote awareness and encourage applications from a more diverse set of talent. Specific GOI entrepreneurship programmes and their associated infrastructure can also be leveraged, such as the Prime Minister's Employment Generation Program (PMEGP) and the network of Khadi and Village Industries Commission (KVIC). Women entrepreneurs associations, such as Madhya Pradesh Association of Women Entrepreneurs (MAWE), have also developed extensive networks that can be valuable partners for EDPs in recruitment phase. For example, MAWE recently organised a major international conference at Jabalpur (SWEEP 2019) that attracted delegates from 20 countries and women entrepreneurs from across India.

Once more women begin applying, inclusionary screening and selection criteria should accompany efforts to diversify cohorts. While criteria may differ

depending on the context of operation and intended programme objective, EDPs can capture and empower more female entrepreneurs by stipulating:

1. **Only women-led ventures, which can present both benefits and disadvantages to participants;**
2. **Only ventures with at least one woman co-founder, which can be positive but may also introduce a perverse incentive;**
3. **Only ventures founded by women's groups or with majority women in leadership;**
4. **Only social enterprises, in which most female entrepreneurs are concentrated per the higher rate of impact objectives in women-led start-up; or**
5. **A quota within a cohort, e.g. at least 50% of participating ventures must qualify as one of these venture categories.**

An EDP aiming to attract new women to India's start-up space could further limit or exclude participants that have previous EDP experience. Adding "First-time incubator participants encouraged to apply" to an advertisement can open the doors to "average" women beyond the "donor darlings" with international recognition, who represent an upper echelon of female entrepreneurs. However EDPs aiming to accelerate women-led ventures to scale might give preference to participants who have successfully graduated from a recognized incubator, as they have already received early stage support and can better leverage tailored advisory services (see Figure 1).

EDPs with an objective to empower women entrepreneurs should use inclusionary screens to identify passionate, high-potential candidates and build their capacity, rather than exclusionary criteria to eliminate candidates with limited experience or any risk of failure. This can be addressed by:

1. **Removing any unnecessary educational or background experience requirements; and**
2. **Asking interview questions to ascertain applicants' sincerity and dedication to the venture's success. Promoter sincerity may be difficult to gauge, especially as many EDP respondents reported male promoters propping up a spouse or female relative to retain equity in the family. However, screening out "shadow businesses" of male co-founders is important to prevent abuse of affirmative mechanisms for women-led ventures.**

One enterprise development organisation that incubates women-led start-ups uses inclusionary criteria to find sincere ventures for its various cohorts, stating:

“The extent to which we target [rural women] depends on the objective of the programme. As with any programme, you must ask what is the motive for screening—are you trying to screen women out? You should be screening out disingenuous partners, not women who are passionate and understand the business. The point is not to eliminate people but to encourage those with entrepreneurial zeal to progress on their journey.”

## Interviewing Women and Men on Founding Teams

When considering mixed-sex teams for participation in a gender-inclusive EDP, interview candidates separately or by name to ensure each participant has the opportunity to speak and demonstrate sincerity. Probe thoughtfully to uncover ventures that might be either overshadowed or inauthentic:

### Inclusionary screen:

**Are there female co-founders who are committed and can demonstrate understanding of the business from its earliest proof-of-concept? Are there high-potential candidates who lack traditional business experience but have skillfully managed other creative projects or family responsibilities? Eliminate unnecessary educational or experiential requirements and consider selecting these candidates because of their demonstrated grit and dedication to the venture’s success.**

### Exclusionary screen:

**Are there male co-founders who cannot articulate female co-founders’ conceptual input or contributions to business decisions? Are there women applying on teams who cannot independently express the venture vision or their substantive role in the business model? Being careful not to project risk where there is actually unconscious bias, screen out inauthentic ventures that lack women at the centre of the leadership structure.**

The purpose of this exercise is not to disadvantage some applicants over others, but to ensure that EDPs intending to empower women ultimately benefit the most deserving women-led and co-led ventures.

## Designing EDPs for Female Entrepreneurs

The design of any EDP depends on its objective(s) as well as the motive of its funder. Some programmes are implemented purely to spark entrepreneurship in a region with high unemployment, some are conducted to stimulate a particular sector, and others aim to catalyse rural women, entrepreneurs serving the “last mile” or ventures with a social impact mission. While some variation is expected, there are several good design features which are generally useful in attracting and supporting women entrepreneurs.

### Solution 1B:

**For more successful venture-level and EDP-level outcomes, EDPs can assess and accommodate women’s and men’s different support preferences, learning styles, and structural needs throughout programme design and implementation.**

A “gender lens” does not always necessitate women-only programmes and does not mean a “lower bar” for female-led ventures. EDPs that aim to catalyse women and men equitably can assess and pilot different strategies and affirmative mechanisms in order to best achieve strong outcomes for women.

### *Consider an explicit focus on women.*

Some organisations design cohorts or activities specifically for women entrepreneurs, which can be especially useful if they target sectors where women have not traditionally been as active like energy and technology. The manager of one TBI commented on the positive reception of gender inclusion in their tech-focused organization:

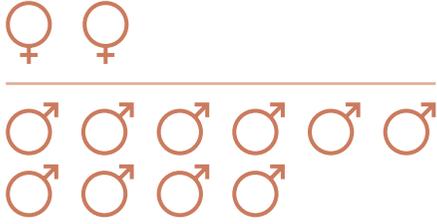
*“Of our 55 incubatees, only five ventures are women-led. It’s good to see them join the deep tech industry. We discount programs by up to 50% if women are one or two of the venture co-founders. We also have a centre in Bangalore specifically for women founders...Women actually get more attention than men—partners reach out to them with more support.”*

Not all organisations that support women-led ventures design their programmes specifically for women. In some contexts, female venture leaders can benefit from “mainstream” treatment, in which they are not women entrepreneurs but simply entrepreneurs like any other member of the cohort. The manager of a social enterprise development programme expressed this concern on behalf of women participating in the EDP, recognizing that

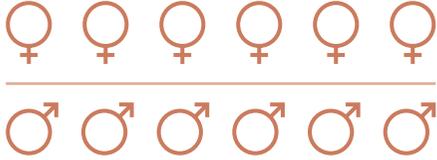
*“it’s not an even playing field, but we don’t want different criteria for females and males.”*

There is variation in how much tailoring or additional support is needed in each market, as being a minority may mean women receive special attention, or could indicate their needs are not considered at all. Women-only cohorts are met with mixed opinions. As described, they can promote solidarity, vital peer support, and gender equity in entrepreneurship; or lead to sidelining, feelings of tokenism, and even a perverse incentive for male entrepreneurs to prop up female colleagues or family members in “shadow businesses.” The extent to which EDPs should segregate or differentiate services for women and men requires a market-based gender assessment, or broader investigation into the particular gender dynamics and support needs of upcoming male and female entrepreneurs in that sector and region.

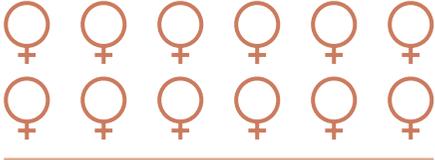
**Table 1: EDP Cohort Composition**

	Pros for Women	Cons for Women	Gender-smart Opportunity
<p>Cohort Composition:  <b>Mainstreamed, mixed cohorts</b>  <i>No focus on women. Women can apply to participate in a “gender blind” EDP with the same criteria, costs, content and classrooms as men.</i></p> 	<ul style="list-style-type: none"> <li>• Seen as “entrepreneurs” and not “women entrepreneurs” which builds confidence that participants were selected on basis of merit</li> <li>• Prepares participants for the “real world” experience of working and competing in male-dominated industries, and potentially dealing with bias in customers, colleagues, investors, etc.</li> </ul>	<ul style="list-style-type: none"> <li>• Gender bias and other barriers mean women may not know about or be selected for these EDPs</li> <li>• Gender-blind programme offerings may not benefit women as effectively as gender-smart programmes</li> <li>• May feel intimidated to share in a group</li> <li>• May be challenging to “claim” a mentor or meet with facilitators</li> <li>• May feel alienated or in spotlight as a minority, facing inattention or even unwanted attention to specific needs</li> <li>• Risk of sexual harassment in the cohort; limited group understanding of women’s experiences of harassment in the workplace</li> </ul>	<ul style="list-style-type: none"> <li>• Provide support such as stipends, childcare, and transportation to enable greater participation without modifying selection criteria</li> <li>• More appropriate in cities with narrower gender gaps in access to STEM-related education, finance, networking opportunities, etc.</li> <li>• More appropriate for accelerating later stage ventures once entrepreneurs have already “broken in” to the sector and gained business experience</li> <li>• Collect business data by gender and sensitize investors and the wider community on women’s propensity for success</li> </ul>

**Table 1: EDP Cohort Composition**

	Pros for Women	Cons for Women	Gender-smart Opportunity
<p>Cohort Composition:  <b>Affirmative treatment, mixed cohorts</b>  <i>Aiming for gender targets, women participate alongside men with some consideration of their gender in selection or design of programme.</i></p> 	<ul style="list-style-type: none"> <li>• Gender bias and barriers are somewhat mitigated so more women learn about and are selected for EDPs</li> <li>• Sessions guided by facilitators and mentors who have been sensitized on gender inclusion and women’s needs</li> <li>• Interaction within a more gender-balanced group of male and female peers means lesser sense of tokenism, broader social capital, and diverse networks for participants</li> </ul>	<ul style="list-style-type: none"> <li>• May still be a minority and/or feel intimidated to share in a group, “claim” a mentor, meet with facilitators, etc.</li> <li>• Risk of sexual harassment in the cohort</li> </ul>	<ul style="list-style-type: none"> <li>• Very useful if targeting sectors where women have not traditionally been as active, e.g. energy and technology</li> <li>• Train EDP staff to skillfully incorporate women and men into sessions, sensitize mentors on potential different needs of male and female participants, work with investors to eliminate bias and activate other gender-smart practices for women’s access to finance</li> <li>• Collect &amp; share business data by gender; sensitize investors / wider community on women’s propensity for success</li> </ul>

**Table 1: EDP Cohort Composition**

	Pros for Women	Cons for Women	Gender-smart Opportunity
<p>Cohort Composition:  <b>Affirmative treatment, women-only cohorts</b>  <i>EDPs intentionally source and serve women, who comprise the entire cohort (and likely many of the staff).</i></p> 	<ul style="list-style-type: none"> <li>• Temporary strategy to help women “catch up” in contexts where they have been economically and socially marginalised</li> <li>• Greater opportunities for women to comfortably learn and share strategies for overcoming gender biases</li> <li>• Can promote solidarity and vital peer support for women who may face unique challenges, such as discrimination, sexual harassment, etc.</li> <li>• 100% women target enhances gender equity in entrepreneurship</li> </ul>	<ul style="list-style-type: none"> <li>• May lead to sidelining or deepen unconscious bias against women-led ventures as being small, low growth-potential, or in need of special treatment to compete in the market</li> <li>• May foster feelings of tokenism for being a “woman entrepreneur” selected only for one’s gender</li> <li>• Can contribute to perverse incentive for including women in ventures</li> </ul>	<ul style="list-style-type: none"> <li>• Very useful if targeting sectors where women have not traditionally been as active, e.g. energy and technology</li> <li>• More appropriate for earlier stage ventures or entrepreneurs with less business experience</li> <li>• In regions where stringent norms restrict women’s mobility and ability to associate with non-familial men, helpful to localize all-women workshops near women’s residences.</li> <li>• Connect all-women cohorts to valuable business contacts and mentors to help propel them into competitive mainstream</li> <li>• Collect &amp; share business data; sensitize investors / wider community on women’s propensity for success</li> </ul>

Ultimately the cohort experience is only as valuable as its members and the degree to which they feel comfortable participating and sharing with one another. The value of community building should not be underestimated for entrepreneurs (the next section discusses this further). For many female entrepreneurs who are new to the scene, cohesion is more easily fostered when more women are participating in the learning and teaching alongside them. As the manager of one EDP shared about the rationale for piloting a female-only cohort:

**“We are not changing the process. Having just women in the room shifts their participation and the conversations they have.”**

***Localize trainings in-person, then leverage supplemental remote support.***

According to ANDE (2017), approximately 60% of EDPs sampled in India ran in-person programmes. The most common duration was 3 to 6 months, with an average cohort size of 9 ventures. Of EDPs interviewed in this research, 20% provided primarily in-person programming, compared to 5% that provided exclusively virtual programming, and 75% that provided a combination. The most common duration was 1 to 2 years. Cohort sizes varied greatly, as many of the programmes provided a combination of cohort-based support and ongoing one-on-one support.

The current research confirmed that in-person support is ideal for fostering cohort cohesion, along with valuable connections to mentors and vendors. However, exclusively in-person programmes may marginalise women if they do not meet structural demands more common to women, for example by providing childcare options and stipends for safe transportation. EDPs seeking to leverage the strengths of in-person delivery can also consider designing a localized option rather than a residential programme to spare participants from traveling several hours and foregoing other work or family responsibilities at home.

**Remote programmes** can include webinars and calls or other technology-facilitated support. Some EDPs even leverage massive online open courses (MOOCs) with lessons and assignments for any interested participant. Open enrollment can expand the EDP’s reach and scalability of their introductory support, while more serious entrepreneurs are vetted and funneled toward an in-person second phase of incubation. It is important to note that remote programmes can expand gender-equitable access by offering trainings irrespective of where women are located. However they are unlikely to expand participants’ social capital, which remains a key benefit of EDP participation to women whose networks tend to be significantly smaller and narrower than men’s. Women may also miss out on these opportunities if they lack access to smart technologies, as do a large share of Indian women in start-up phase who do not own computers or tablets. Purely remote programming

may exclude those with poor connectivity, can decrease sessions’ effectiveness, and may fail to hold participants’ attention, leading to attrition over time.

Therefore, a **blended approach** may be most effective for women who lack access to high-speed internet or learn new concepts better in person. This may be structured as weekend sessions, in which participants take back “homework” to their ventures during the week. Blended programmes often suit busy entrepreneurs and provide a helpful test ground for immediately integrating business lessons in their real work lives. Remote support may also include follow-on mentorship calls or visits to continue troubleshooting after completion of a residency or in-person sessions.

**Table 2: EDP Delivery Styles**

	Pros for Women	Cons for Women	Gender-smart Opportunity
<p>Delivery Style  <b>In-person programmes:</b>  <i>Residential courses or bootcamps</i>  <i>Periodic sessions, e.g. at night or on weekends</i></p>	<ul style="list-style-type: none"> <li>• Offer dedicated time to focus and accountability for successfully acquiring skills and completing programme</li> <li>• Foster cohort cohesion with other entrepreneurs</li> <li>• Facilitate valuable connections with mentors and business partners</li> </ul>	<ul style="list-style-type: none"> <li>• Temporarily remove participants from other responsibilities in workplace and household</li> <li>• Marginalise primary care givers if childcare is not provided</li> <li>• Pose challenges of safe transportation, and if long commute is required, accommodation</li> </ul>	<ul style="list-style-type: none"> <li>• Provide childcare onsite during programme</li> <li>• Provide safe transportation or travel subsidy</li> <li>• Provide localized option or safe housing if residential</li> <li>• Blend in supplemental remote offerings after introductory sessions</li> </ul>
<p>Delivery Style  <b>Remote programmes:</b>  <i>Distance learning using email, video conferencing, calls, MOOCs, webinars, chat platforms, etc.</i></p>	<ul style="list-style-type: none"> <li>• Expose participants to geographically diverse cohort and mentors</li> <li>• Allow flexibility in completing assignments and immediately integrating lessons</li> <li>• Enable participants to balance multiple ongoing roles in the workplace and household</li> </ul>	<ul style="list-style-type: none"> <li>• Foster less bonding among participants and mentors, and do not expand women’s social networks</li> <li>• Exclude those with poor internet connectivity</li> <li>• Less effective for those who learn better in person or have limited English literacy (if not offered in other languages)</li> <li>• Secure lower commitment and see higher attrition</li> </ul>	<ul style="list-style-type: none"> <li>• Ramp up interest in entrepreneurship and awareness of EDP with open courses on business basics</li> <li>• Incubate those who perform well in MOOCs</li> <li>• Offer online resources in local dialects</li> <li>• Introduce after in-person lessons and networking takes place</li> </ul>

*Utilize some sectoral focus to facilitate connections and shared learning.*

**Sector-specific** EDPs are valuable for industry “connects” and overcoming unique sector challenges, such as breaking into energy and navigating government regulations around energy sub-sectors. Using sector clusters as the only screen can be challenging if ventures compete for the same market share or are in different stages. For example, those who are earlier stage may feel out of their depths in a classroom where conversation topics are centered on scaling. This can be avoided by also using a strong focus on business stage when constructing cohorts (see next recommendation).

Sector-agnostic cohorts may present opportunities for diverse learning, collaboration across industries, and recruiting more women. But if the application is totally open, women are likely to apply from gender-stereotypical industries (e.g., garment, textiles, accessories, services, food, agriculture) that may present less opportunity for growth than sectors with higher margins like energy or IT. Further, if a cohort is too dissimilar, participants may not benefit from others’ questions or community-building activities, and some may find facilitators or mentors irrelevant.

### Sectoral Focus in EDPs:

- ANDE data (2017) from 60 accelerators and incubators working in India discovered top sectors for enterprises are agriculture and food; healthcare and life sciences; and energy.
- 2/3 of programmes specifically support ventures with a social or environmental impact objective
- Over half of programmes reported a focus on energy or the environment

*Establish cohorts of entrepreneurs from similar stages and locations.*

In designing the EDP, *stage is perhaps even more important than sector*. Many EDPs in India recognize this and are choosing to focus on the start-ups with the least mileage behind their businesses. Within its sample, ANDE (2017) found that early stage ventures (those that may have initial market traction but require further funding and will likely not yet be generating profits) were the most likely to receive EDP support. Entrepreneurs' needs change over time based on their ventures' trajectories. Those who are prototyping, defining their key segment and testing a go-to-market strategy will have less in common with those who are scaling production, acquiring new customers or pivoting markets. Grouping entrepreneurs by the same business stage is valuable for their navigation of shared experiences and troubleshooting common challenges. It can also be more efficient for programmes with limited staff and many ventures to advise.

Location-based cohorts focus on serving the needs of a particular region, tier of city, or even international entrepreneurs establishing companies in India. This design strategy is valuable for identifying local consultants and providing tailored advisory services, for example on reaching a certain profile of customer

or rolling out a social marketing campaign that speaks to local audiences. Women may especially benefit from the camaraderie and utility offered by such a cohort. Location-based EDPs can expand their social networks in a way that is localized and sustainable beyond the programme. According to ANDE (2017), approximately 70% of EDPs sampled were headquartered in Tier 1 cities, with the majority in Bangalore, New Delhi and Mumbai. *Designing a programme to support start-ups in Tier 3 cities can serve rural women who are often excluded from urban incubation opportunities*. Stimulating innovation here can have a larger impact at the ecosystem-level just by nature of the greater need (and untapped business opportunity) in underserved areas.

*Develop a set curriculum for very early stage start-ups, and implement customised support for later stage ventures.*

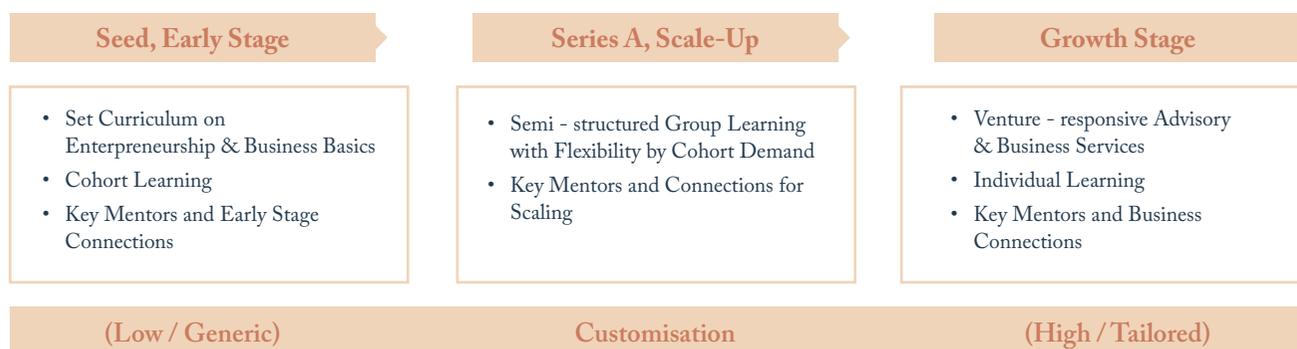
Set curriculum is usually combined with in-classroom learning. It can be a valuable instrument for earlier stage ventures to learn “the basics” about business, especially if energy entrepreneurs have a science background but less management training or familiarity with organisational development. More experienced entrepreneurs will likely find a set curriculum inadequate, redundant alongside prior knowledge, or irrelevant to their stage.

These participants will likely benefit from customised support, which is most practical for small cohorts. Often this type of support begins by reviewing a core framework, like “12 business building blocks” or the principles of human-centered design (HCD). As one manager of a women-only EDP referenced,

“We have building blocks, but the cohort decides. We don't start off by imposing what we think is right but come up with a model that gives them what they say they need.”

Moving forward along the business stage continuum, staff can be responsive to emergent needs with key advisory services, whether helping specific ventures cut costs, access new markets, or otherwise refine their strategies for scaling and growth (See Figure 1). Customised support is more resource-intensive but can enable entrepreneurs to better leverage the engagement.

**Figure 1: Level of Venture Support Customisation Required Over Time**



**Providing Services to Best Meet the Needs of Female Entrepreneurs**

Women and men may need approximately the same resources and opportunities to thrive as entrepreneurs. Analysis of the GALI Database (2018) illustrates that female founders and male founders reported almost identical preferences in terms of top services they find most important for their venture’s development and success.

Female Founders		Male Founders	
Network	26%	Network	27%
Direct Funding	26%	Direct Funding	25%
Mentorship	21%	Mentorship	18%
Access to Investors	9%	Access to Investors	12%
Business Skills	8%	Business Skills	8%
Credit	6%	Credit	6%
Peers	5%	Peers	5%

A key gender difference may not always be the need for the service or resource itself, but the rates of success with which enterprising women and men access the services of EDPs and tap into these benefits. Women who participate in “gender-blind” EDPs do not always reap the same benefits from them as male entrepreneurs. In light of the *historical predominance of men in both energy and entrepreneurship*, and the *cultural and social norms that affect gender relations and the treatment of women in much of India*, the risk is high that without intentional gender inclusion from the EDP during design and implementation, female participants will not experience the same outcomes as male participants.

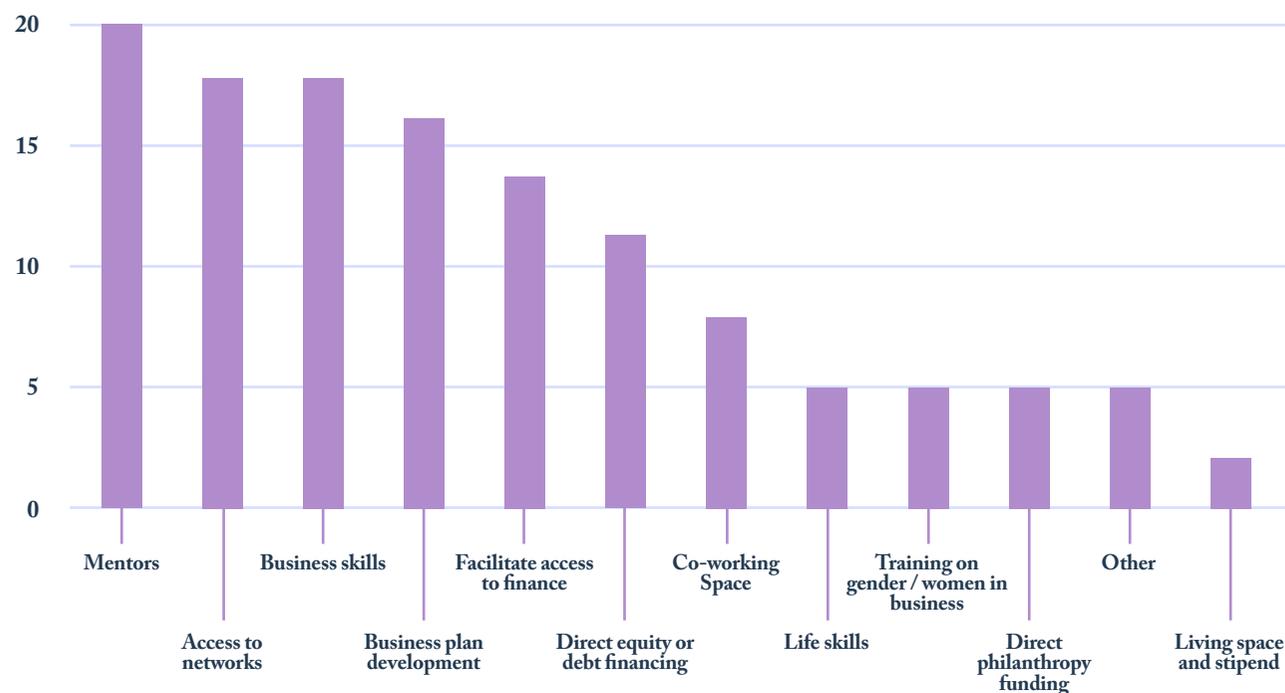
## Challenge 2:

**Female entrepreneurs often do not have access to the same services and networks that male entrepreneurs do. In addition, services provided by EDPs are often not tailored to the needs of female entrepreneurs.**



The 23 EDPs interviewed<sup>27</sup> provided a range of key services that both women and men need to grow their businesses. The most commonly reported were mentors, access to networks, business skills and business plan development, which a majority of respondents provide. About half offer participants the opportunity to apply for direct equity or debt financing, and almost 2/3 facilitate access to finance through external partners. The least common services are life skills modules, training on gender and women in business, direct philanthropy funding, “other” services (which included e.g., legal support, governance, and exposure to different cities), and a living space or stipend. While the latter represent the least commonly provided services, they are not necessarily the most “in demand” by aspiring female EDP participants. Of those entrepreneurs interviewed, mentors and networks were still among the highest-ranked service preferences. Further research with women who have considered, applied, been accepted, and yet not participated in an EDP, is necessary to determine the marginal value of specific services (including less common offerings like living space or stipends) for solidifying women’s access or retaining them in EDP cohorts.

### Services Provided by EPDs from Klls



<sup>27</sup> EDPs selected and analysed in this research were sampled for their focus on women entrepreneurs and/or access-to-energy, and thus may not be representative of all programmes in India.

## Solution 2:

**To ensure that female entrepreneurs have access to vital networks and resources, EDPs can provide high quality services, tailored with a “gender lens” to ensure they are of optimal use for women.**

Outlined below are some basic services that are necessary for A2E entrepreneurs to launch businesses. Beyond offering these critical components, it is further valuable for EDPs to collect sex-disaggregated data on utility of these different service offerings to participating women and men. This analysis will reveal insights on how often women and men access each benefit; patterns in stage, degree and frequency of use; experiences of gender bias or other obstacles; and prevailing gaps in entrepreneurs’ needs.

*Create a lab or partner with IITs to provide access to labs and technical expertise for prototyping.*

Hardware and software labs, STEM parks, and R&D centres enable entrepreneurs to access design and manufacturing support. This is pivotal for A2E ventures to move from proof-of-concept to a functional prototype that they can pilot through partners. Ventures may be hosted at IITs or existing facilities in large cities, but such sites are usually lacking in rural locations. Corporates may also provide finite or ongoing access to state-of-the-art lab resources in exchange for equity in the start-up, making these connections all the more valuable to women who may lack prior networks to these institutions. For example, one corporate energy EDP reportedly offers an accelerator programme freely to ventures, in which it takes up to 8% equity. In exchange, entrepreneurs may use the professional lab to a ceiling of \$100,000 USD. While access to labs and technical expertise is important for both male and female entrepreneurs, women often struggle to make such connections with facilities in India, thus explicitly providing the link to services and finance can be mutually beneficial.

*Provide support with business plan and strategy development.*

A central function of EDP support is to help entrepreneurs think through challenges they are facing with their operational model. For example, an accelerator might guide A2E distribution companies in the logistics of a recruitment plan for micro-entrepreneurs to distribute products to last mile customers. EDPs should use Human-Centered Design (HCD), theories of change, and holistic problem-solving methods to shift participants from thinking about a small idea to solving a complex problem, especially if the enterprise involves addressing a challenging social issue. There are valuable opportunities to integrate a gender lens in the HCD process and design products targeted to meet needs of female end-users.

Given their proximity to social issues and on-the-ground realities for typical Indian households, female entrepreneurs often innovate at the business-model level often innovate at the business model level, in addition to engineering the technology itself. EDPs may be well positioned to help women-led ventures step back and reflect on these ideas, so they can leverage their expertise to craft the most effective model for solving a relevant consumer problem.

*Provide customized consultancy services and connections to key industry contacts.*

## Entrepreneurs benefit greatly from access to targeted consultancy services.

These can be provided by in-house experts or EDP-facilitated connections to external consultants who offer subsidized or low-cost support for needs like administrative and accounting services or legal support with government registration or compliance. Website development, marketing, branding, communications and outreach support emerged as invaluable consultation areas for early stage ventures.

Women leaders also benefit from foundational guidance on human resources (HR), for example in hiring and training their teams. Female entrepreneurs may find HR consultancies to be particularly useful when designing their team structure and policies and overcoming a generalized lack of respect for women in leadership positions. Related, supporting all enterprises to develop equitable internal policies helps male and female founders think through how to respond in real-life instances of gender bias or discrimination, for example with customers and investors.

*Key industry contacts are critical for building a strong business foundation.* "Connects" in the energy field are perhaps even more important than financing for earlier ventures, as they help entrepreneurs break in and develop social capital that will serve them later on as they sustainably grow their businesses. Female entrepreneurs may lack access to these connections due to limited networks, and thus find connections facilitated through an EDP to be particularly beneficial. Key industry contacts can include for example business advisors with a relevant niche, large customers or suppliers, or partners for a potential merger or acquisition.

*Facilitate in-depth, relevant mentorship.*

Mentoring is a widely used strategy to fast-track expansion of entrepreneurs' mindsets and skills. Identifying the right mentor for an entrepreneur is essential for the relationship to have a positive effect on their venture. National or international business experts with experience in a similar sector or function are the most beneficial. Investors were also cited as valuable mentors, as they can convey what investors look for in investees and are most interested regarding sector or asset class. Senior mentors may provide a venture with occasional high-level advice, but participants will also need other more accessible mentors for everyday issues and technical questions.

Trusted, timely, and continuous one-on-one relationships are most likely to prove their worth as the venture transitions, which often involves multi-year engagement. For a mutually agreeable relationship, both the mentor and mentee must understand the function of mentorship and communicate their expectations at the outset. The terms should be at-will but may include incentives; some mentors are paid by EDPs while others are interested as potential investors, distributors, or acquirers of the venture in the future.

EDPs should consider several important gender implications of mentoring relationships before pairs are matched. Mentorship could exclude women if they are less aggressive in choosing a mentor or not proactive in soliciting their guidance after being paired. While this trait is not inherent, many women in India are hesitant to make decisions for themselves, and often defer to men and elders for decisions about their own lives. Respondents suggested that men are typically encouraged to "fend for themselves" in India, whereas women are conditioned to defer to or even express dependence on men. With such a cultural backdrop at play, gender norms indicate that women may be hesitant to aggressively choose their mentor, especially where there are mixed cohorts. Therefore EDPs can encourage female entrepreneurs to seek out their mentor for support and provide them with tips and a neutral outlet for feedback.

Mentorship can also put women at risk of harassment if mentors are not adequately aware of power dynamics and the purpose of the relationship. Women have also felt condescended by receiving “parental advice” as opposed to business guidance from their mentor. EDPs should sensitize male mentors on appropriate mixed-gender relations and mitigate any generational dynamics that might intersect with the relationship. Some entrepreneurs express that same-gender mentors are not necessary, preferring a focus on topic-specific expertise like finance. Others say female mentors lend psychological support by helping mentees develop the grit needed to stay with their venture. Research conducted by Argidius in Central America has supported same gender mentors, reporting better business performance with male/male and female/female pairings. When advisers were the same gender as the entrepreneurs they mentored, ventures experienced higher average revenue growth<sup>28</sup>. Ultimately, the participant should decide who best meets her or his current needs.

*Emphasize personal empowerment by offering sessions on building agency, creating women-only spaces, and introducing female role models.*

Personal empowerment can be particularly valuable for women in a male-dominated ecosystem. Sessions on “agency-based empowerment” and “women in business” can help tackle imposter syndrome by cultivating women’s self-concept as an entrepreneur who belongs in this role and this sector. Overcoming internal biases linked to women’s potential to be energy entrepreneurs is particularly important for incubator cohorts given the psychological challenges of the business start-up phase.

EDPs targeting entrepreneur-level outcomes may also offer sessions on “founder personality development.” These help participants grow into leaders, establish a vision and set goals, confidently network and present to investors, and manage a team without letting gender bias seep in. In empowerment dialogues, more (or only) women in the room can make participants feel more comfortable. Even if covering the same content as male founders, different conversations come up for businesswomen; for example, they may feel more able to share vulnerably in conversations about pitching

if other women are there to share their concerns. To effectively execute personal empowerment training, female role models can join or lead sessions to inspire participants and address real concerns, such as time management and work-life balance.

Given that one of the major hurdles for women entrepreneurs in India is internalized norms that are reinforced within families, an empowerment module could focus on challenging these norms and breaking barriers, emphasizing gender equality and women’s rights, especially as they pertain to domestic violence and sexual harassment in the workplace. The latter is especially important given the personal safety risks that women are often aware of and calculating in their decisions at work.

<sup>28</sup> Argidius (2016). Accelerating Impact for Entrepreneurs: Lessons Learned from TechnoServe’s Work with Small and Growing Businesses in Central America. Emory University and Technoserve. Available at: [https://www.technoserve.org/files/downloads/Accelerating\\_Impact\\_for\\_Entrepreneurs.pdf](https://www.technoserve.org/files/downloads/Accelerating_Impact_for_Entrepreneurs.pdf)

*Create platforms for community building and peer networking.*

Building a community of peers and entrepreneurial contacts through involvement with an EDP was frequently cited as a key benefit to women. Female entrepreneurs are able to share and learn from each other regarding both business and personal challenges, from tough situations women are likely to encounter, to solutions they have tested and can advise others on.

“I realized I was not alone. It is really helpful to meet other women entrepreneurs and recognize the challenges you face [including sexual harassment and bias] are ones everyone faces.” - *Energy Entrepreneur*

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Peer networking is most effective in-person but can also be facilitated via remote platforms such as Facebook groups, Whatsapp threads, chat pages, and other online community pages. Through such portals, peers can also link others to key industry contacts and investors, serve as a sounding board for ideas and pitch practice, and provide emotional support to fellow entrepreneurs on what can be “a lonely journey.” As the manager of Shell Foundation’s POWERED Programme has stated:

“Peer networking is the strongest component of our programme, which surprises people. Many founders comment that their cohort peers become their friends for life. Mentors are there for 2-3 hours and can only discuss top-level challenges. We bring in these experts to challenge them and help them analyse their own assumptions. The more intimate challenges like hiring or work-life balance are navigated in peer groups. They go out of their way to help each other. These kinds of connections only happen when you meet in person, learn together and discuss things together. Then they can maintain that relationship through other mediums like Facebook and Whatsapp. It’s not just about assembling a group of women, but facilitating them to unlearn and learn together.”

## Challenge 3: Investment gaps persist for women-led and co-led ventures.



Despite evidence that Indian ventures with women on their founding teams are significantly more likely to experience prior-year revenues, ventures run or co-run by women are significantly less likely to attract investors. From the GALI research, early-stage ventures listing at least one woman among the top three founders were less likely to attract equity investment, regardless of prior experience: 12%, compared to 18.5% for ventures with all-male teams. The gap for women-led ventures was even bigger<sup>29</sup>. The start-ups founded or co-founded by women explored by BCG and MassChallenge received less investment - \$935,000 compared to \$2.12 million of all-male teams. This illustrates the missed opportunities for investors related to investing in women run or co-run ventures.

Indeed, IFC research reveals that less than 3% of global venture capital in 2017 went to women-led enterprises. The median female-led business received of 65% the funding received by the median male-led business, with female-led businesses receiving more funding in early stages (e.g., accelerator or incubator) when investment sizes are smaller than later in stages<sup>30</sup>. According to PitchBook Data for US venture capital deals from 2007 to 2017, companies with women founders have received slightly more than the global numbers at 4.4%

of venture capital deals; however, even these companies have garnered only about 2% of all capital invested in US transactions<sup>31</sup>.

### Designing EDPs for Female Entrepreneurs

Early stage entrepreneurs may need assistance accessing initial capital: start-ups often need funding, to get funding. Research has shown how ventures founded and led by women are more reliable investments than ventures founded or led by solely men. In 2018, GALI found that ventures in India with a female founder were 10% more likely to report positive revenues in the prior year compared to companies with all-male founders; and enterprises currently led or co-led by women were nearly 20% more likely to report positive revenues compared to those led by all men. Research by Calvert Impact Capital similarly found that portfolio companies within the top quartile for women's leadership had 18.1% return on sales (ROS), 3.9% return on assets (ROA), and 8.6% return on equity (ROE), while those in the bottom quartile had -1.9% ROS, 0.3% ROA, and 4.4% ROE. Companies with higher percentages of women on boards outperformed those with the lowest

percentage, with the top quartile achieving 18.0% ROS, 3.7% ROA, and 8.5% ROE, compared to 0.9%, 1.5%, and 6.8% respectively for those in the bottom quartile<sup>32</sup>. Despite a wealth of data in support of gender diversity for commercial outcomes, ventures run by women attract fewer investors and less overall investment value.

<sup>29</sup> GALI. (2017). 2017 Year End Data Summary. GALI. Retrieved from <https://www.galidata.org/assets/report/pdf/2017%20Year%20End%20Data%20Summary.pdf>

<sup>30</sup> W IFC. (2019). Moving towards gender balance. IFC. Retrieved from [https://www.ifc.org/wps/wcm/connect/79e641c9-824f-4bd8-9f1c-00579862fed3/Moving+Toward+Gender+Balance+Final\\_3\\_22.pdf?MOD=AJPERES](https://www.ifc.org/wps/wcm/connect/79e641c9-824f-4bd8-9f1c-00579862fed3/Moving+Toward+Gender+Balance+Final_3_22.pdf?MOD=AJPERES).

<sup>31</sup> Olsen, D. (2018). Do female founders get better results? Here's what happened on my quest to find out. PitchBook. Available at: <https://pitchbook.com/news/articles/do-female-founders-get-better-results-heres-what-happened-when-i-tried-to-find-out/>

<sup>32</sup> Calvert Impact Capital (2018). Just Good Investing: Why gender matters to your portfolio and what you can do about it. Shell Foundation. [https://shellfoundation.org/app/uploads/2019/02/Shell\\_Foundation\\_Calvert\\_Impact\\_Gender\\_Investment\\_strategy.pdf](https://shellfoundation.org/app/uploads/2019/02/Shell_Foundation_Calvert_Impact_Gender_Investment_strategy.pdf)

Analysis of GALI data in India revealed that **venture teams with women listed as the first founder were less likely than ventures with men listed first to raise equity and debt financing:**

- **Female 1st founder ventures were 75% less likely to attract equity investment** than ventures with a male 1 founder (8% compared to 14%)
- **Female 1st founder ventures were 29% less likely to attract debt investment** than ventures with a male 1 founder (7% compared to 9%)

However, ventures with a female 1st founder were **77% more likely to have raised philanthropic funding** compared to ventures with a male 1st founder (23% compared to 13%).

	Prior Year Revenue	Investment raised		
		Any Equity	Any Debt	Any Philanthropy
<b>Female 1st Founder</b>	46%	8%	7%	23%
<b>Male 1st Founder</b>	44%	14%	9%	13%
<b>All - Male Founders</b>	42%	14%	9%	12%
<b>Male 1st Founder with Female Founders listed at 2nd or 3rd</b>	50%	12%	8%	18%

Despite the fact that ventures with women on their founding teams are significantly more likely to experience prior-year revenue, they are more successful at raising philanthropic funds than investment funds in India. This may ecosystem-wide biases regarding the financial viability of women-led ventures.

## Solution 3A:

### EDPs can finance ventures directly.

*Directly provide philanthropic, debt, or equity capital to entrepreneurs.*

Some of the EDPs interviewed – such as NSRCEL, SPRING, and yher – provide participants with small grants for prototyping products or testing new business ideas in marketing or IT development. Of those interviewed, 50% also provide opportunities for direct equity or debt financing to programme participants. In many cases – such as with Village Capital, Villgro, and ShellE4 – the EDP is connected to an impact investment arm that leverages the services provided by the EDP to identify investment-ready enterprises. Entrepreneurs often need blended capital (grants and equity/debt) in order to test new ideas and grow their business. While this type of financing can traditionally be very difficult to find, certain EDPs that provide training, technical assistance, and connections to entrepreneurs, and then also provide equity or debt financing to a select number of programme participants, are essentially offering blended capital. This is a prime opportunity for EDPs to subsidize early stage growth and legitimize ventures to private investors. However, while early stage female entrepreneurs may receive more philanthropic funds, they do not access equal levels of venture capital and private equity finance as men.

## Solution 3B:

### EDPs can facilitate women's access and improve their skills to secure debt and equity finance.

*Assist entrepreneurs in determining the type of finance best suited to their current stage and needs.*

EDPs should help entrepreneurs explore whether working capital is needed in the form of debt from a commercial bank or crowdsource platform, or whether investment is required from a venture capitalist or private equity firm. The EDP can support the entrepreneur to think through their capital needs and identify the most effective funding source to target, structure their finances and business plan accordingly, and approach relevant financiers with a sound case. For example, when seeking debt financing, the enterprise may need to focus more on compliance with banking regulations in order to secure an affordable line of credit through a commercial bank; however when seeking equity financing from a venture capital investor, the enterprise may need to focus more on crafting an attractive pitch with strong growth projections.

Women with a solid venture foundation often fail to access mid-level finance. Financing provided through

government programmes and microfinance institutions is often in small amounts and financing available through banks may be too large and come with burdensome requirements. While microfinancing can be helpful for early stage companies and larger bank loans are beneficial for scaling, there is often a gap in access to mid-levels of financing needed to test and grow businesses. EDPs can work with both entrepreneurs and investors to identify and close these funding gaps.

#### Crowdfunding Platforms

*EDPs can connect Indian entrepreneurs to finance through innovative platform such as:*

-  • Catapoolt
-  • Crowdera
-  • Kickstarter
-  • Kiva
-  • FuelADream
-  • Fundable
-  • Indiegogo
-  • Ketto
-  • Milaap
-  • Wishberry

#### *Connect entrepreneurs with market opportunities.*

There may be opportunities for EDPs to link A2E entrepreneurs to market opportunities with both Government of India (GOI) and private sector partners, so their enterprises can supply products or services, e.g., to larger energy corporations. These connections may also help the enterprise to grow at a more manageable pace in response to business demand.

Some GOI agencies are already taking steps in this direction by adopting online platforms and making coordinated opportunities for women more visible to the public. For example, the Government E Market (GeM) has recently launched “Womaniya on GeM” with the aim to open up market channels for women entrepreneurs and self-help groups, who are then able to sell products directly to various GOI ministries, departments and institutions. The initiative seeks to expand markets for women entrepreneurs “on the margins of society” and achieve gender-inclusive economic growth.<sup>33</sup>

<sup>33</sup> Retrieved from: <https://pib.gov.in/newsite/PrintRelease.aspx?relid=187477>

### *Create a live entrepreneur-investor database.*

The EDP can create a live entrepreneur-investor database that lists for each investor: a contact, the sector, stage of interest, preferred asset class and amount invested; and for each enterprise: a contact, the sector, stage of operation, and amount raised. With growing evidence for the investment case for a gender lens, EDPs should research and document any particular interest in gender lens investing in the database. This can tip-off female entrepreneurs to their competitive advantage, as well as open opportunities to men leading gender-diverse teams or ventures with strong female representation in their workforce or supply chain. Such a database provides entrepreneurs with a valuable resource to directly link with relevant investors, and examples of other similar enterprises with whom to exchange fundraising advice. Some EDPs with a wide alumni network find that one of the most effective ways for entrepreneurs to access funding is through connections with other entrepreneurs, who lead peers to investors that may be a good match for their needs.

### *Connect entrepreneurs with investors.*

EDPs can also more directly make connections to investors through one-to-one introductions, and by

hosting demo days wherein a cohort of entrepreneurs pitches their business to a panel of investors. Widely conducted, pitch demonstrations enable entrepreneurs to practice pitching their businesses, understand the types of information investors seek, and potentially link with an interested investor. For investors, pitch days and “launchpads” provide an opportunity to engage with a cohort of entrepreneurs who have already been vetted through the EDP. But even before this interaction, the host organization can play a role in sensitizing investors to women-led ventures earlier in the process. Interacting with EDP staff and female entrepreneurs themselves can help transform investor mindsets from “vetting the best” on pitch day, to broadly enhancing “investability” leading up to the actual event. This subtle shift in dynamic can generate mutual familiarity and buy-in, promote wider awareness of women-led businesses, and foster genuine interest among investors in helping earlier stage businesses prepare.

### *Support entrepreneurs to refine their pitch through direct training, coaching, and practicing.*

This involves clarifying what story they want to tell and what impacts they want to emphasize. It is important for the entrepreneur to recognize that depending on the core impacts they seek to achieve with their business, different investors will be more/less interested. Clarifying their value proposition and then targeting

investors accordingly is a critical step in securing appropriate forms and amounts of financing. Once entrepreneurs clarify their own vision, it is important to think through how it aligns with investors’ interests, so they may frame the value proposition in a way that resonates with investors. For female entrepreneurs specifically focused on social or environmental impacts, it is important to emphasize this and identify similarly aligned impact investors.

When training female entrepreneurs to develop their pitch and respond to investor questions, EDPs should *recognize that investors may come with an inherent gender bias*. Many perceive female-led ventures as riskier and less profitable, thus female entrepreneurs should be prepared to *frame responses to their questions in a way that conveys accurate growth projection and valuation*.

For example, a recent Harvard study analysed the questions venture capitalists asked of male and female entrepreneurs in a start-up funding competition in the US. It found that investors are more likely to ask female entrepreneurs “prevention-oriented” questions that focus on safety, responsibility, security, and vigilance; these questions made up 66% of the questions asked of female entrepreneurs in the study.<sup>34</sup> Conversely investors used “promotion-oriented” questions when talking with male entrepreneurs, which focused on hopes, achievements, advancement and ideals; such questions made up 67% of questions asked of male entrepreneurs. This pattern applied to questions asked by both male and female investors. Controlling for company characteristics such as size, capital needs, age, and past experience and regardless of the entrepreneur’s gender, researchers found that entrepreneurs who fielded promotion-oriented questions went on to raise seven times the amount of capital as those who were asked questions oriented around prevention. This shows a clear unconscious bias that manifests in the screens investors use with entrepreneurs. These questioning patterns cause investors to conclude with an over-valuation and growth bias for male entrepreneurs and an under-valuation and focus on risk mitigation for female entrepreneurs.

However, this same study found that entrepreneurs who responded to “prevention” questions with “promotion” responses, were able to raise 14 times the capital as those who responded to “prevention” questions with “prevention” responses.

**“An entrepreneur who is asked to defend her start-up’s market share, would be better served by framing her response around the size and growth potential of the overall pie than by merely stating how she plans to protect her share of the pie.”<sup>35</sup>**

Therefore, EDPs should specifically focus on training female entrepreneurs to recognize the “prevention” orientation of questions and frame their responses with a “promotion” orientation.

<sup>34</sup> Kanze, D., Huang, L., Conley, M., & Higgins, T. (2018). We Ask Men to Win and Women Not to Lose: Closing the Gender Gap in Startup Funding. *Academy of Management Journal*, 61(2).

<sup>35</sup> Kanze, D., Huang, L., Conley, M., & Higgins, T. (2017). Male and Female Entrepreneurs Get Asked Different Questions by VCs – and It Affects How Much Funding They Get. *Harvard Business Review*. Available at: <https://hbr.org/2017/06/male-and-female-entrepreneurs-get-asked-different-questions-by-vc-and-it-affects-how-much-funding-they-get>.

## Solution 3C:

### EDPs can mission-align, sensitize, and build capacity in investors to more accurately value female-led ventures and adopt strategies for increasing investment in them.

*Identify investors with missions and levels of financing that align with entrepreneurs' needs.*

If introducing entrepreneurs to investors through one-on-one connections or pitch opportunities, the EDP should select investors who have interests aligned with the enterprises' missions and are looking to provide the level of financing appropriate for the stage of development of the particular enterprise. Researching this in advance avoids any mismatch between investors interested in investing large sums of money and enterprises that are not ready to absorb those amounts, or conversely with insufficient investments for an enterprise approaching a critical inflection point in its business stage.

While this may seem obvious, EDPs and entrepreneurs alike report that this often does not happen in practice. In order to raise their own visibility and attract more media coverage, EDPs may invite higher profile investors, who are less likely to extend the size or asset

class of investment that early stage cohorts need. If entrepreneurs are pressured to pitch to a mismatched investor audience, they may successfully secure funding, only to fail at absorbing it, thereby damaging their brand and jeopardizing future financial opportunities. While host organisations are also concerned for their own sustainability, EDPs have a responsibility to market themselves with a primary consideration for their participants' welfare and entrepreneurial success. To cater to diverse ventures and ensure entrepreneurs are not put into unnecessarily high pressure situations, EDPs can for example forego asking one large investor to participate in a pitch day, and instead host three different investors with histories of extending various "ticket sizes."

*EDPs: Train investors to recognize and avoid unconscious bias and conduct objective valuations.*

*Investors: Adopt a scorecard with standardized criteria for screening energy enterprises.*

Despite data showing that female-led ventures are just as profitable, if not more, than male-led ventures, investors are often hesitant to invest larger amounts of money in companies run by women. As described in the above Harvard study, unconscious bias against female entrepreneurs causes investors to under-value women-led ventures and to view women leaders as a risk, rather than the asset that statistics show they are. Numerous EDPs

explained in interviews that women in their cohorts may not be as bold in projecting potential business growth but are usually more realistic and accurate in projections. So, while women might not convey the growth potential that male counterparts express, their ventures are more likely to actually hit their targets compared to male-led ventures, which tend to over-index their potential.

Unconscious biases against women-led ventures can be even stronger in traditionally male-dominated fields such as technology and energy. Therefore, EDPs should train investors to recognize and avoid unconscious bias and conduct objective valuations of enterprises, to help investors select a more diverse portfolio of entrepreneurs. This involves first highlighting the research linking performance and returns of women-led and co-led ventures so that investors recognize potential benefits. EDPs can help investors to confront any gender bias that may influence their questioning and due diligence approach when assessing potential investments. To combat subjectivity based on gender, investors can create an objective scorecard with standardized criteria for screening and evaluating energy enterprises.

## Village Capital: Democratizing Investment through a Peer-Selected Investment Process

Since its inception in 2009, Village Capital has employed a unique funding mechanism whereby peer cohorts select which enterprises should receive funding after participating in an accelerator program. Cohorts of 10-12 entrepreneurs participate in Village Capital's accelerator programme which provides the tools needed to grow a successful business—training in team management, customer discovery, building a solid financial plan, and preparing to take on investment — as well as the opportunity to build relationships with mentors, customers, stakeholders, and investors. At the end of each program, there is a “peer-selected investment process” wherein entrepreneurs assess each other in an open and transparent process and they each rank which enterprises from their cohort should receive seed capital from VilCap Investments and its co-investors. The two highest-ranked ventures are then chosen to receive this funding.

This method has been successful in more equitably distributing investment capital. Investment decisions among entrepreneur cohorts in the US made through the peer selection process yielded 26% investment in ventures with founders of color (compared to less than 2% industry average) and 44% investments in ventures with female co-founders (compared to a 15% industry average). The enterprises selected through VilCap's peer selection process have also out performed those who were not selected, suggesting that the peer selection process is successful in evaluating the potential of early-stage ventures. However, there is no way to know whether these enterprises were more successful because they were selected to receive the investment capital, or whether they would have been more successful regardless.

Either way, weighting entrepreneurs' input through a peer-selection process trains them to think from the investor's perspective and may help reduce bias in the allocation of finance by enabling more equitable selection of enterprises for investment.

Source: Burns, A., Tashima, R., Matranga, Heather S. (2019). Flipping the Power Dynamics: Can entrepreneurs make successful investment decision? Washington, D.C.: Village Capital. Available at: <https://vilcap.com/peer/>

*EDPs: Train traditional investors to conceal applicants' gender when screening enterprises.*

*Investors: Conceal applicants' gender when screening enterprises.*

Unless an investor has a gender equity thesis or priority to fund women-led A2E ventures, EDPs may encourage investors to conceal the applicants' gender for at least the first round of enterprise screening. This enables the investor to discover whether there is a discrepancy between the percentage of female entrepreneurs who proceed to the second level of screening with and without the gender-blind screen. If there is a difference, this would alert the investor to the existence of gender bias in their decision-making processes and potentially motivate them to take measures to use a more equitable selection process.

*Or, EDPs: Encourage investors to adopt "positive screens" for gender-inclusive businesses.*

*Investors: Adopt "positive screens" for gender-inclusive businesses.*

Other investors may feel gender-blind screening does not fit their thesis. Investors traditionally use "negative screens" or exclusionary criteria when consciously deciding not to invest in certain enterprises, such as those that are environmentally harmful. However, as proposed by Vikram Gandhi, the founder of Asha Impact and senior lecturer at Harvard Business School, a "positive screen" representing inclusionary criteria can be used to show preference for specific valued factors that are present in the mix.<sup>36</sup> Just as EDP staff might consider intentional selection of women-led ventures during programme recruitment, a positive screen can encourage investors to place strategic value on gender-inclusive enterprises, including women-led and co-led ventures, and even enterprises founded by men that have taken steps to integrate gender, such as intentionally hiring women or sourcing from female suppliers. Investors who consider gender-inclusive businesses a strategic opportunity can likewise establish targets for their portfolios.

*EDPs: Encourage investment firms to enhance diversity internally as a strategic priority.*

*Investors: Diversify teams as a strategic priority.*

Women are more likely to invest in women. Due to the implicit-egotism effect (natural bias by which people are subconsciously drawn to those with whom they perceive a connection or shared experience), investment firms may not be able to enhance entrepreneurial diversity until they can address their own lack of diversity.<sup>37</sup> By setting targets to increase parity between male and female investment officers, private equity firms can take steps towards gender equity internally, and by extension, in investments in women-led ventures in their portfolios (in both absolute numbers and size of investment).

<sup>36</sup> ibid

<sup>37</sup> Singh, D. (2018). Finding more investment support for gender diverse founding teams. SSIR. Available at: [https://ssir.org/articles/entry/finding\\_more\\_investment\\_support\\_for\\_gender\\_diverse\\_founding\\_teams#](https://ssir.org/articles/entry/finding_more_investment_support_for_gender_diverse_founding_teams#).

## How AECF Targets and Supports Women-led Ventures in Africa

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In 2018, African Enterprise Challenge Fund (AECF) carried out a gender assessment across key markets where the organization operates, and found that female-led ventures were receiving significantly less financing than male-led ventures. In response, they created an investment facility that specifically targets women, with 60% of the portfolio designated for female-led ventures. In order to identify a strong cohort of gender-inclusive ventures, AECF conducted research to understand (1) how women are, or could be, effectively integrated into company value chains at points that would enhance the company's financial performance, such as involving women in sales of products when women are known to be primary customers; and (2) historically female-dominated value chains, such as shea and cassava in West Africa. AECF then conducted extensive outreach to raise awareness about their funding competition and answer questions in detail for interested applicants. They also provided assistance to applicants throughout the application process, including with financial modeling and business plans. This process helped to level the playing field prior to a more rigorous panel review. Given that many of the companies were early stage and small in size compared to previous competitions, AECF reduced the amount of funding provided per competition winner and also required a lower percentage match from the entrepreneur (50% match compared to typically 100%). The organisation selected its first cohort through this process in 2019, and will provide valuable data insights to the field of gender lens investing as they catalyse and measure outcomes for women-led ventures across Africa.

## Solution 3D:

### EDPs and investors can sync operations.

*EDPs: Directly partner with investors to fund the EDP.*

*Investors: Partner with the EDP to fund its operations.*

Without consistent operating funding, enterprise development programmes come to an end. Without new investment-ready ventures, investors exhaust their pipelines. When EDPs and investors explicitly sync operations, the partnership can unlock sustainability and synergy in the ecosystem.

In order to streamline resources to female-led entrepreneurs, EDPs should partner with investors that can both provide funding for the EDP operations and directly fund a selection of enterprises that participate in the EDP. *Private funding of the operations of incubator/accelerator programmes helps to ensure their sustainability.* Investors may be motivated to fund EDPs, as high quality programmes *mitigate risks associated with investing in early stage ventures*

through close support and services to individual entrepreneurs. By providing training, technical assistance, mentorship, and connections to key industry experts, EDPs are *essentially fortifying the pipeline of qualified enterprises for investors*. In this way, EDPs provide an expanded pool of investment-ready enterprises which *simplifies investors' due diligence processes*.

The SPRING programme emphasized the importance of this relationship, stressing that when EDPs work in close collaboration with investors/investment funds, the partnership can be structured so that the EDP is providing targeted pre-investment support for the investment fund. This accelerates the due diligence process that often holds back investment in this space, as the investor has some prior trust in the enterprise. EDP “graduation” confers a base-level recommendation in investors’ due diligence processes.

Through this close collaboration, *investors can also shape learning components* of the EDP that prepare and approve enterprises for investment. This enables the investor to more closely determine what aspects of the TA process are essential for an enterprise to be considered “investment ready”— an equally valuable addition for female entrepreneurs who may be learning about securing finance for the first time.

*EDPs and investors: Create an investment fund to invest in ventures that participate in the EDP.*

Establishing a parallel financial vehicle to directly invest in a selection of EDP participants links these entrepreneurs to needed blended capital and can facilitate greater investment to female-led ventures.

While many early stage entrepreneurs need blended capital to test different business approaches and products and then to grow their businesses, this type of capital can be elusive. However, a partnership between an EDP and an investor enables the enterprise to first receive grant-funded support such as technical assistance (TA), connections to other entrepreneurs, key industry contacts, and mentors, and labs for prototyping, but then also directly links them with the next level of capital (either equity or debt) needed to grow and scale their business.

When the EDP and investor share one entity, the partnership can easily track social and commercial returns on investment (ROI) of the various services provided by the EDP. While very few EDPs in this research tracked data related to cost-effectiveness, connecting these services enables the programme to collect data on the types of TA and enterprise conditions that are associated with enhanced financial performance and higher returns on investment. Leveraging these findings can enable programmes to more cost-effectively provide tailored support and services to female entrepreneurs. The collection and analysis of ROI data will ultimately contribute to building the business case for investing in female-led ventures. Better data is needed for investors, EDPs, and the entire entrepreneurial ecosystem to understand the benefits of investing in female-led ventures and drive more investment to women.

## Challenge 4: Government programmes have limited impact on female entrepreneurs, as deserving women-led ventures are not accessing or benefitting optimally from many public schemes.



As evidenced in Table 3 below and Annex 2, there is a plethora of national- and state-level programmes and schemes funded by the Government of India (GOI) to support entrepreneurship across the country.

**Table 3: GOI Entrepreneurship Development Programmes and Schemes**

Government Programme/ Scheme	Services provided						Focus	
	Funding	Skilling/ Training	Marketing	Mentorship	Incubation/ Acceleration	Ecosystem Development	On Women	On Energy
<i>Prime Minister's Employment Generation Programme (PMEGP)</i>	●	●	●			●		
<i>Credit Guarantee Trust Fund for Micro and Small Enterprises (CGT-MSE)</i>	●							
<i>Prime Minister's Mudra Yojna (PMMY)</i>	●						●	
<i>Start Up India</i>						●		
<i>Stand Up India</i>	●					●	●	
<i>Atal Innovation Mission (AIM) through NITI Aayog</i>	●	●		●	●	●	●	●
<i>Make in India</i>	●	●				●		●
<i>Pradhan Mantri Kaushal Vikas Yojna (PMKVY)</i>		●						
<i>Mahila E-Haat</i>			●				●	
<i>Government E-Market (GEM)</i>			●					
<i>National Small Industries Corporation (NSIC): Incubation Centre, Delhi</i>	●	●	●		●	●	●	

### *Improving and Leveraging Government Programmes and Schemes for Female Entrepreneurs*

Most of these programmes focus on providing access to loans for early stage entrepreneurs and they have a varying degree of focus on female entrepreneurs. These programmes often offer greater flexibility in use of funding than with private sector investment, in that with equity funding in particular, private funders can put stipulations on how the funding is used. In addition, there are often longer repayment periods on loans offered through these programmes. Government initiatives that are specifically focused on access to energy can engage in social marketing to build consumer demand for access to clean energy, so A2E enterprises have ready markets for their products and services.

A challenge with leveraging government schemes is how initiatives are often housed in different ministries with separate objectives and targets. Limited cross-pollination and coordination means GOI programmes may miss opportunities to enhance and build on the work of peers in other departments. Schemes' outreach in their specific markets are often limited compared to the scope of the opportunity, leaving many entrepreneurs unaware that programmes exist. Programme information is not typically available in vernacular languages, further complicating access, especially for women residing in rural areas.



## Solution 4A:

**The GOI can intentionally design and market programmes to women and take measures to ensure implementation partners effectively serve female entrepreneurs.**

*GOI and EDPs: Train banking agents (and the public) on objectives and requirements of credit mechanisms.*

Specifically related to financing schemes, both entrepreneurs and banking agents may lack understanding on loan requirements and other ecosystem benefits such as tax breaks and subsidies. More education is needed so that entrepreneurs are aware of the benefits that exist, and banking agents do not add ancillary requirements or put undue restrictions on women's access to these services.

“Women in India face special challenges with banks. One of our entrepreneurs went to a branch in a large city and requested a loan for her business that she entirely owns. When they asked for collateral, she gave her property that she owns. Then they asked for her husband's signature, despite her being in her forties and not married. She was just amazed. When she told the banker, she was single they asked for her father's signature, and she said, what on earth is this?” - *Manager, Women's EDP*

*GOI: Collect and publicize gender-disaggregated data.*

While about half of the programmes we looked into had a gender focus, most of the government entrepreneurship schemes are gender-agnostic and do not differentiate support and services for male and female entrepreneurs. Furthermore, most of these programmes do not collect, or at least report gender or sector-disaggregated data, making it difficult to know whether women-led A2E ventures have participated. In some cases, this data may exist, but hasn't been made public. For example, it is unclear whether government programmes currently collect data on: the percentage of loans allocated to women, the sector in which they will be invested, and the value of loans given. While it is likely that banks track such data, they do not make it available on government websites, which complicates programme monitoring against gender targets. To increase transparency regarding who is accessing and benefitting from various government schemes and to more effectively target services to women, GOI programmes should make an effort to both collect and publicize this data.

**GOI: Ensure the most-deserving entrepreneurs are the beneficiaries of “women-led” affirmative mechanisms.**

As with EDPs that focus on women-led ventures, some interviews revealed that government programmes explicitly providing services for women-led ventures struggle to identify ventures in which women are genuinely engaged in decision-making, rather than those where women’s names are nominally included on applications. To combat this challenge, programmes should conduct interviews, or even due diligence visits, with applicants to ensure that women listed as co-founders or promoters are truly in positions of power within the enterprise.

## Solution 4B:

### EDPs can help women leverage services provided by GOI programmes and schemes.

**EDPs: Help female entrepreneurs access the credit mechanisms and ecosystem benefits provided by the GOI.**

EDPs should ensure that female entrepreneurs are aware of various relevant government programmes/schemes and know how to access credit offered through these programmes. This may involve educating enterprises on the specific requirements associated with accessing credit mechanisms and assisting enterprises with compliance and document preparation to be able to access funds.

Enterprise development programmes, such as Yunus Social Business, also help to ensure that start-ups are able to access tax benefits, government subsidies, and specific tenders available for early stage entrepreneurs through connections to lawyers who can help navigate procedures and legal compliance necessary to access these benefits. Other programmes, such as the Catalyst for Women Entrepreneurs (CWE) launched by the Government of Karnataka have helped to *facilitate entrepreneurs’ access to specific*

*grant and credit mechanisms* provided by the government. EDPs should actively seek to facilitate these connections for female entrepreneurs so that they can access the ecosystem benefits provided by government programmes.

In addition, with funding from government schemes such as NITI Ayog, some private sector programmes have set up innovation hubs and incubation centres for entrepreneurs who have a focus on social businesses. EDPs can *leverage* this type of *government funding to establish innovation hubs and incubators for female entrepreneurs with social or environmental impact goals.*

**EDPs: Facilitate connections to large state-run energy projects.**

Enterprises involved in harnessing, storing, and measuring energy usage may benefit from connections with government energy providers. EDPs can *connect energy enterprises to state-run projects* to expand enterprises’ customer base. The GOI will also benefit from these connections as they can enable the government to reach underserved markets, distribute clean energy through innovative mechanisms, and meet energy needs of citizens at the last mile. Contracting SGBs to supply energy back to the grid can also defray state obligation to generate power and accelerate India’s transition to renewable energy.

*EDPs: Partner with university programmes to leverage academic resources, networks, and expertise.*

Of the 20 IIMs (Indian Institutes of Management, i.e. business schools) in India, 7 have women-focused programmes. These programmes provide connections to a large network of alumni mentors who have started their own companies and/or are in senior roles within large corporations. Business professors are also able to provide valuable guidance on business strategy and plan development. In addition, IITs (Indian Institute of Technology) often have technology labs, professors, and equipment that can be used by entrepreneurs during the product development and prototyping phases. Alumni networks from IITs can provide technical expertise and industry connections. While universities may have their own incubator/accelerator programmes, private sector EDPs can also partner with these universities to leverage their resources and also supplement the services provided through the university through provision of training content, customized support, and access to financing.

*EDPs: Advocate for policies that create an enabling environment for female entrepreneurs.*

EDPs have the potential to advocate for policy change that will create a more enabling environment for female entrepreneurs. Below are examples of what specific organisations and EDPs have recently advocated for in India and beyond:

- Catalyst for Women Entrepreneurs (CWE) recently collaborated with other organisations to advocate for procurement quotas on the percentage of government purchases that come from minority-owned businesses, successfully leading to legislation that stipulates 3% of purchases from women-owned enterprises.
- Organisations such as Ashden have advocated to influence national- and state-level policies related to clean cooking, LPG, and solar.
- Development organisations such as Technoserve have advocated with banks to help facilitate entrepreneurs' access to banking services through lowering criteria for accessing loans and extending repayment periods. Technoserve has also worked with bank employees to educate entrepreneurs around the criteria needed to access loans, so that they are familiar with the process and can successfully access credit as needed.
- Ecosystem actors such as Sustainable Energy for All (SEforALL) are advancing the global agenda around SDG 7 and building popular demand for access to clean energy, opening up ready markets where A2E ventures can sell their clean energy products and services.
- In addition to building the capacity of individual women leading ventures, it is important to look at some of the structural barriers that inhibit female entrepreneurship more broadly. Organisations such as Zone Start-ups have convened diverse stakeholders with a connection to women's entrepreneurship to discuss some of these barriers, such as lack of accessible, affordable, and high-quality childcare. These groups also discuss how to change the perception that women cannot or should not lead technology companies.

## Conclusion

There are clear financial reasons to invest in women entrepreneurs, and potential opportunities to expand energy access through investing in and supporting women energy entrepreneurs. Further, supporting women energy entrepreneurs has the opportunity to be gender transformative by enabling more women to enter and grow in traditionally male domains. However, without explicitly targeting female entrepreneurs in enterprise development programming, women will get left out or will have unequal access to support, services, and financing. Therefore, EDPs need to actively work to develop a pipeline of female entrepreneurs, target female entrepreneurs in recruitment efforts, and design programmes to support the different preferences, learning styles, and structural needs of female and male entrepreneurs.

Programmes should also apply a gender lens in the provision of the following key services: lab access, business plan development, consultancy services, connections to industry contacts, community building/peer networking, mentoring, and personal empowerment. In order to ensure that female entrepreneurs have access to appropriate and adequate financing, EDPs can provide direct funding (philanthropic, debt, and/or equity), can

create opportunities and build the capacity of female entrepreneurs to access financing, and can work with investors to ensure that they are able to accurately value female-led ventures and are able to adopt strategies for increased investment in female-led ventures.

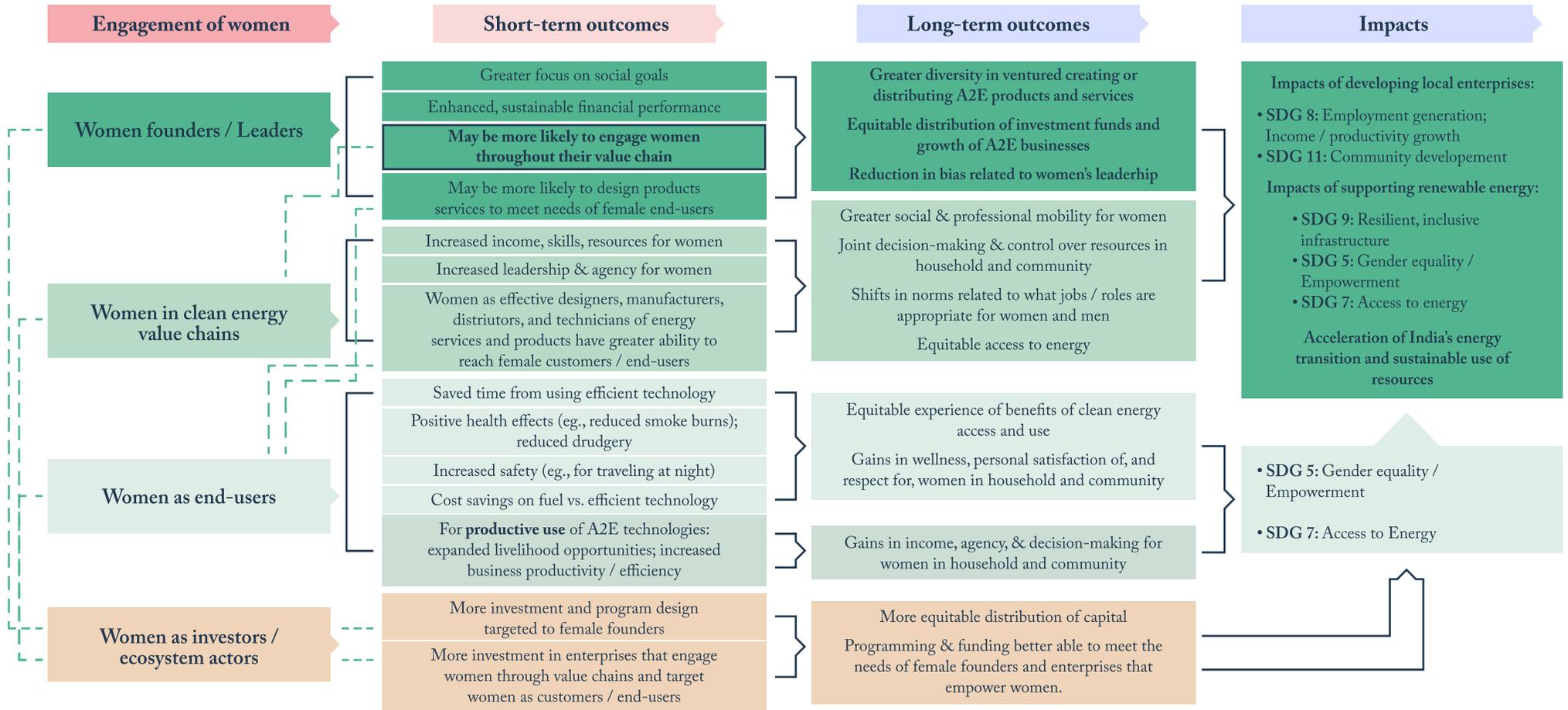
EDPs should also directly partner with investors to both ensure the sustainability of the EDP itself and also create a pipeline of needed venture capital for female entrepreneurs. Finally, government programmes and schemes already exist in India that provide specific programming and financing for early stage entrepreneurs (and in some cases with a specific focus on female entrepreneurs). In order to ensure that these programmes are effectively serving female entrepreneurs, GOI should intentionally design and market programmes for female entrepreneurs and ensure that partners are effectively implementing programmes to serve women. EDPs can also work to ensure that female entrepreneurs are able to leverage the resources and services provided by these programmes and schemes.

Ultimately, through the development of an enabling environment for women-led A2E ventures, more female entrepreneurs may be empowered to start and grow A2E businesses, enhancing energy access throughout India and contributing to gender equity.

# Annex 1: Theory of Change

## Theory of Change: Engagement of Women Can Result in Positive Economic, Social, and Environmental Impacts

The following *Theory of Change* maps the impacts associated with women's engagement in the energy sector: as enterprise founders and leaders, as micro-entrepreneurs engaged throughout energy value chains, as end-users of energy products/services, and as ecosystem actors. The description below provides evidence to support these connections where available and suggests recommendations for additional research where gaps in the evidence persist.



## Women as investors and ecosystem actors

Engaging women as investors and ecosystem actors has the potential to increase investment in female A2E founders, triggering a ripple effect of more women engaged in energy value chains, more female customers accessing and using energy products and services, and thus ultimately more equitable energy access. Most investment and capital allocation decisions are being made by male-dominated teams that are not reaping the potential benefits of gender-balance, including enhanced investment decision making and deal sourcing.<sup>38</sup> Globally, investment teams are predominantly male, with women representing only 8% of senior investment professionals in emerging market private equity and venture capital firms (excluding China), and only 15% of senior investment teams considered gender-balanced. In South Asia, women represent an even smaller share (7%) of private equity and venture capital senior investment professionals.

The IFC finds that

“gender gaps in the representation of women as allocators and recipients of capital put access to financing at risk for female entrepreneurs and may reduce investment returns for funds.”

Indeed, gender-balanced investment teams have better returns – at 20% higher net international rate of return than that of predominately male teams. This positive correlation between gender balance and performance holds across investment strategies and geographies, as well as when controlling for fund size. Further, female partners invested in almost two times more female entrepreneurs than male partners.<sup>39</sup> Investment firms can take steps to move towards gender balance, like Asha Impact in India. The impact investing platform has achieved a 50-50 ratio of men to women at all levels of the organisation, keeps a clear focus on social inclusion, and has an investment portfolio comprised of 40% of women-led or co-led ventures.

In addition to engaging women in investment teams, women’s involvement as designers and implementers of enterprise development programmes and government schemes can ensure that programmes are better designed to meet the needs of female entrepreneurs. However, with both investors and enterprise development programmes, it is important to note that female employees can and do express the same unconscious biases against women entrepreneurs that male investors and programme staff often demonstrate. Thus, part of this strategy involves ensuring that women engaged in ecosystem roles understand this larger *theory of change behind investing in women*, and exhibit *gender-equitable beliefs and behaviours* themselves.

<sup>38</sup> IFC. (2019). *Moving towards gender balance*. IFC. Retrieved from [https://www.ifc.org/wps/wcm/connect/79e641c9-824f-4bd8-9f1c-00579862fed3/Moving+Toward+Gender+Balance+Final\\_3\\_22.pdf?MOD=AJPERES](https://www.ifc.org/wps/wcm/connect/79e641c9-824f-4bd8-9f1c-00579862fed3/Moving+Toward+Gender+Balance+Final_3_22.pdf?MOD=AJPERES).

<sup>39</sup> *ibid*

## Women as enterprise founders and leaders

Various research highlights that companies founded, run or co-led by women outperform their male-only counterparts on key barometers such as reporting positive revenues, illustrating that enterprises with women on leadership teams **deliver better returns on investment:**

- A Global Accelerator Learning Initiative (GALI) study<sup>40</sup> analysed nearly 14,000 early-stage ventures from around the world from 2013 to 2017 and found that ventures with women on their founding teams are significantly more likely to report positive prior-year revenues. In fact, ventures that are co-run by women and men (i.e., have men and women among their top three founders) were nearly 20% more likely to report positive revenues in the prior year than ventures with all-male leaders – 48.7% compared to 40.9%. Women-led companies (i.e., with a woman listed as the first founder) were 14% more likely to report positive revenues in the prior year than companies with all-male leaders (46.6% versus 40.9%).<sup>41</sup>
- A 2018 Calvert Impact Capital report supported by Shell Foundation analysed over 160 portfolio companies' share of women in senior leadership positions and on boards of directors. The research found that those within the top quartile for women's leadership (companies with more than 57% of senior positions held by women) had 18.1% return on sales (ROS), 3.9% return on assets (ROA), and 8.6% return on equity (ROE), while those in the bottom quartile (representing companies with less than or equal to 20% women in senior positions) had -1.9% ROS, 0.3% ROA, and 4.4% ROE. Similarly, companies with higher percentages of women on boards (more than 46%) outperformed those with the lowest percentage (20% or less), with the top quartile achieving 18.0% ROS, 3.7% ROA, and 8.5% ROE, compared to 0.9%, 1.5%, and 6.8% respectively for those in the bottom quartile.<sup>42</sup>
- A 2019 International Finance Corporation (IFC) study<sup>43</sup> revealed how portfolio companies in emerging markets that have gender-balanced leadership teams (30-70% women in leadership roles) were correlated with approximately 25% greater increase in valuation than unbalanced teams (or an average increase of 64% versus 55%).<sup>44</sup>
- A 2018 First Round Capital report found that their investments in companies with a female founder performed 63% better than their investments in all-male teams.<sup>45</sup> First Round Capital invests in technology companies primarily in the United States.
- A 2018 global study by BCG and MassChallenge<sup>46</sup> found that start-ups founded or co-founded by women generated 10% more in cumulative revenue over a five-year period (\$730,000 compared with \$662,000). Importantly, there are differences in how effectively companies turn a dollar of investment into a dollar of revenue: for every dollar raised, women-founded or co-founded start-ups generated 78 cents in revenue, compared to 31 cents for men. These findings are statistically significant, with factors ruled out that could affect investment amounts including education levels of entrepreneurs. As BCG puts it, "By that measure, if investors had put the same amount of capital into women-run companies as they did into the ones run by guys, they would have helped generate **an additional \$85 million USD in revenue.**"<sup>47</sup>

<sup>40</sup> This report used data from over 150 countries, half of the ventures being in the United States, Mexico, India, Chile and Uganda. More than half of the ventures included in the study are run or co-run by women.

<sup>41</sup> GALI. (2018). *The Entrepreneurship Database Program at Emory University: 2017 Year-End Data Summary*. ANDE & EDP. Available at: <https://www.galidata.org/assets/report/pdf/2017%20Year%20End%20Data%20Summary.pdf>

<sup>42</sup> Calvert Impact Capital (2018). *Just Good Investing: Why gender matters to your portfolio and what you can do about it*. Shell Foundation. [https://shellfoundation.org/app/uploads/2019/02/Shell\\_Foundation\\_Calvert\\_Impact\\_Gender\\_Investment\\_strategy.pdf](https://shellfoundation.org/app/uploads/2019/02/Shell_Foundation_Calvert_Impact_Gender_Investment_strategy.pdf)

<sup>43</sup> This report – which was conducted with RockCreek and Oliver Wyman – used gender data across thousands of General Partners and portfolio companies operating in emerging markets. Performance and gender diversity data was gathered for more than 700 funds and 500 portfolio companies. Analysis of this database was augmented with survey responses from more than 500 General Partners and Limited Partners, as well as interviews with more than 50 industry practitioners and academic experts.

<sup>44</sup> IFC. (2019). *Moving towards gender balance*. IFC. Available at: [https://www.ifc.org/wps/wcm/connect/79e641c9-824f-4bd8-9f1c-00579862fed3/Moving+Toward+Gender+Balance+Final\\_3\\_22.pdf?MOD=AJPERES](https://www.ifc.org/wps/wcm/connect/79e641c9-824f-4bd8-9f1c-00579862fed3/Moving+Toward+Gender+Balance+Final_3_22.pdf?MOD=AJPERES).

<sup>45</sup> First Round (2018). 10 year project. First Round. Available at: <http://10years.firstround.com/>

<sup>46</sup> MassChallenge is a US-based global network of accelerators founded in 2010 that offers start-up businesses access to mentors, industry experts, and other resources. MassChallenge has backed more than 1,500 businesses, which have raised more than \$3 billion in funding and created more than 80,000 jobs. MassChallenge, which doesn't provide financial support and doesn't take equity in the businesses it works with, purposefully supports women entrepreneurs.

<sup>47</sup> Abouzahr, K., Taplett, F., Krentz, M & Harthorne, J. (2018). Why women-owned startups are a better bet. BCG. Available at: <https://www.bcg.com/publications/2018/why-women-owned-startups-are-better-bet.aspx>.

### Analysis of GALI data in India found:

*Ventures co-led by women* were nearly **20% more likely to report positive revenues** in prior year compared to ventures with all-male leaders

*Ventures with a woman founder* were **10% more likely to report positive revenues** in prior year compared to companies with all-male founders

SOURCE: Analysis of GALI 2018 Entrepreneurship Database Program data

*In addition to business impacts associated with women founders, several key hypotheses speak to the potential contribution of women-led ventures in expanding access to energy.* The chain of impacts from *investing in women founders*, to *achieving SDG 7*, starts with women's greater propensity to hire women. Women are significantly underrepresented in clean energy value chains, and particularly so in technical roles like product design and engineering that could improve uptake and usability of products.<sup>48</sup> Recent research highlights that women business owners in the energy sector are more likely than male energy entrepreneurs to employ other women in their company.<sup>49</sup> This is important because increasing gender, racial and ethnic diversity at organisations is associated with the diversity dividend, i.e., the increase in profits for organisations with more diverse workforces, derived from having a wider range of fresh ideas, perspectives,

backgrounds, and social capital on which to draw.<sup>50</sup> Beyond the link to financial performance, there are operating efficiencies that women employees can deliver to companies.

Specifically in the energy sector, if female venture leaders target more women throughout their value chains, it can enable a company to better design energy products and services that fit women's needs. Gender diversity on marketing and sales teams means energy companies can capitalize on messages and channels that more effectively reach female end-users, who represent a key customer segment.<sup>51</sup> The field is increasingly recognizing this link, and *more data is needed to substantiate how women-owned small and growing businesses (SGBs) impact access, penetration and adoption of energy products.*<sup>52</sup>

There are future impacts to be gained from women business owners who serve as role models, helping to further shift norms and expectations related to women's capabilities. Women leading A2E ventures can inspire a new generation of girls to enter a challenging industry. And finally, given the evidence that women-led and co-led ventures are more likely to report positive prior-year revenues, there are potential opportunities for business growth, deeper market penetration, and thus greater energy access in emerging markets through supporting and scaling women-led or co-led ventures.

<sup>48</sup> Shankar A., Elam A., & Glinski A. (2019). *Women's Energy Entrepreneurship: A Guiding Framework and Systematic Literature Review*, Research report RA7. ENERGIA.

<sup>49</sup> Shankar et al. 2019

<sup>50</sup> Hunt, V., Layton, D. & Prince, S. (2017). *Why Diversity Matters*. McKinsey & Company. Available at: <https://www.mckinsey.com/business-functions/organisation/our-insights/why-diversity-matters>.

<sup>51</sup> Habtezion, S. (2016). *Gender and Sustainable Energy Policy Brief 4-WEB (Gender and Climate Change)*. - UNDP, Global Gender and Climate Alliance. Reiss K. (2015). *Developing Renewable Energy Sectors and Technologies in West Africa*. -UN Chronicle, 52(3), 33-35. Available at: <https://search-proquest-com.ezp-prod1.hul.harvard.edu/econlit/docview/1765842933/abstract/827CF8C1B8274F86PQ/24>

<sup>52</sup> Cecelski, E. (2000). *The Role of Women in Sustainable Energy Development*. Golden, CO: National Renewable Energy Laboratory (NREL).  
Haque N. (2002). Household energy, gender, and development: a case from north-east Bangladesh. *Journal of Environmental Studies and Policy*, 5(2), 127-129.  
Shailaja, R. (2000). Women, Energy and Sustainable Development. *Energy for Sustainable Development*, 4(1), 45-64.  
Shankar, A. Onyura, M., & Alderman, J. (2015). Agency-based empowerment training enhances sales capacity of female energy entrepreneurs in Kenya. *Journal of Health Communications*, 20(1), 67-75.

## Women as micro-entrepreneurs engaged throughout energy value chains

In most developing contexts, women are the central managers of household energy and natural resource management<sup>53</sup> – responsible for farming, animal husbandry, water and fuel collection, as well as land and forest management. Given women’s proficiencies in these roles<sup>54</sup> as primary household energy managers globally, they constitute a significant portion of end-users of energy products at the household level. Therefore, local women’s input into the design of energy products and services proves vital for companies to ensure usability and marketability to end-users.<sup>55</sup> The company S4S Technologies has leveraged this insight in the research and development of its solar-power dehydrators and other energy applications with high usage by women.<sup>56</sup>

*Empowerment* is defined as the ability to have the resources, such as knowledge and skills, and the agency—that is, the ability and freedom to define and act upon one’s goals—to make decisions and take action related to matters of significance in one’s life.

SOURCE: Kabeer, N. (1999). Resources, agency, achievements: reflections on the measurement of women’s empowerment. *Development and Change*, 30 (3) 435–464.  
Malhotra, A., Schuler, S.R., & Boender, C. (2002). Measuring women’s empowerment as a variable in international development, in *Measuring empowerment: cross-disciplinary perspectives*, 71–88. Narayan, D. ed. Washington, DC: World Bank, Gender and Development Group.  
Bandura, A. (2001). Social cognitive theory: an agentic perspective. *Annual Review of Psychology*, 52, 1–26.

Women can also play important roles in distribution, marketing and sales of energy products, particularly as micro-entrepreneurs or sales agents. As ventures such as Dharma Life have discovered, women may be able to leverage existing social networks and form trusting relationships, helping companies overcome challenges in reaching last-mile customers.<sup>57</sup>

Engaging women in these roles not only enables companies to more effectively reach female customers, but also creates empowerment impacts for the women themselves. As women gain access to skills, knowledge, and resources – in the form of income and enhanced social networks – they often participate more in household decision making. Increased access to and control over resources are core components of empowerment.

<sup>53</sup> Earth Summit. (1997). *Women and sustainable development*. Retrieved from [www.un.org/ecosocdev/geninfo/sustdev/womensus.htm](http://www.un.org/ecosocdev/geninfo/sustdev/womensus.htm).

<sup>54</sup> The gendered division of labor related to energy begins in childhood, ensuring that girls become experts from a young age in the sustainable management of natural resources and household energy.

<sup>55</sup> Bardouille P. (2012). From *Gap to Opportunities: Business Models for Scaling Up Energy Access*. Washington, DC: International Finance Corporation.  
O’Dell K., Peters S., & Wharton K. (2014). *Women, energy, and economic development: Applying a gender lens to amplify the impact of energy access*. Cecelski 2000

<sup>56</sup> See: <http://s4stechnologies.com/>

<sup>57</sup> Misana, S & Karlsson, GV. (EDS). (2001). *Generating Opportunities, Case studies on energy and women*.  
Pailman, WL. (2016). *An explorative study of the synergy between social enterprises and local micro-entrepreneurs in the provision of off-grid clean energy access*.

## Women as end-users of energy products and services

There are many channels through which energy technologies can impact women's social and economic well-being. The primary pathways through which these impacts occur are through positive shifts in women's time use, health, safety, and household finances.

**Shifts in time** availability and use may occur when the time needed for fuel collection or energy consumption changes. While time poverty can affect men, women, boys, and girls in developing countries, it is particularly salient for women and girls who often spend many hours of their day on domestic chores such as fuel and water collection, cooking and cleaning, and caring for household members.<sup>58</sup> For example, OECD data has found that Indian women spend an average of 352 minutes per day on unpaid work, compared to 52 minutes for men.<sup>59</sup> When more time is freed up by efficient energy products/services, women can spend a greater portion of their day on other tasks, productive work, and rest.

Owing to these gender roles, women are often responsible for traveling long distances and carrying heavy loads to obtain necessary amounts of fuel.<sup>60</sup> Using alternative fuel sources, such as liquefied petroleum gas (LPG), or more efficient energy technologies, such as those that require less wood or biomass, may reduce the length and frequency of fuel collection trips that are necessary

to meet household demand. While who spends time collecting fuel and cooking depends on specific contexts, a body of research has found that women typically contribute a significant amount of the time and labor required to bring food to the table, as calculated by the aggregation of time spent on food production, processing, and preparation.<sup>61</sup> Due to these competing demands on women's time, they benefit the most from innovations that lead to greater efficiency in existing roles and thus free up time for engagement in other activities.

Through both changes associated with fuel collection and reduced exposure to harmful household air pollution, energy technologies can contribute to positive health impacts for women. For example, since women are often the primary cooks and experience the highest levels of exposure, studies have found that household air pollution (HAP) is the second leading risk factor contributing to disability-adjusted life years (DALYs) among women worldwide.<sup>62</sup> Fortunately, improved cooking solutions have the potential to reduce exposure to HAP and thus improve health outcomes.<sup>63</sup> They also reduce women's exposure to injuries during heavy fuel collection trips. With little free time for rest and recovery, this repetitive physical work can lead to chronic headaches, back pains, and long-term illness.<sup>64</sup> But when the frequency and length of required trips is reduced, women are relieved of fatigue and wear on the body and are less likely to sustain spinal injuries and pregnancy complications related to fuel collection.<sup>65</sup>

<sup>58</sup> Blackden, C.M. & Wodon, Q. (2006). Gender, Time Use, and Poverty in Sub-Saharan Africa. *World Bank Working Paper No. 73*. Washington, DC: The World Bank Group.  
ENERGIA. (2006). *From the Millennium Development Goals: Towards a Gender-Sensitive Energy Policy Research and Practice: Empirical Evidence and Case Studies*. Synthesis Report for Department for International Development (DFID) KaR research project R8346 "Gender as a Key Variable in Energy Interventions".

<sup>59</sup> OECD (2019). OECD.Stat Time Use data.  
Available at: [https://stats.oecd.org/Index.aspx?datasetcode=TIME\\_USE](https://stats.oecd.org/Index.aspx?datasetcode=TIME_USE)

<sup>60</sup> UN WOMEN (2009). Women, Gender Equality, and Climate Change. *Issue brief*. UN WOMEN Watch.  
UNICEF. (2014, October) Gender and Water, Sanitation and Hygiene (WASH). *UNICEF Eastern and Southern Africa*.  
Available at: [http://www.unicef.org/esaro/7310\\_Gender\\_and\\_WASH.html](http://www.unicef.org/esaro/7310_Gender_and_WASH.html)

<sup>61</sup> UN WOMEN (2014). Gender and Sustainable Development. *World Survey on the Role of Women in Development 2014*. UN WOMEN.

<sup>62</sup> Limm, S.S., Vos, T., Flaxman, A.D., Danaei, G., Shibuya, K. et al. (2012). A comparative risk assessment of burden of disease and injury attributable to 67 risk factor clusters in 21 regions, 1990-2010: a systematic analysis for the Global Burden of Disease Study 2010. *The Lancet* 380: 11-13.

<sup>63</sup> Smith-Siversten, T., Diaz, E., Pope, D., Lie, R.T., Diaz, A., et al. (2009). Effect of Reducing Indoor Air Pollution on Women's Respiratory Symptoms and Lung Function: The RESPIRE Randomized Trial, Guatemala. *American Journal of Epidemiology*, 170:211-220.

<sup>64</sup> Matinga, M.N. (2011). A Socio-Cultural Perspective On Transformation Of Gender Roles And Relations And Non-Change In Energy-Health Perceptions Following Electrification In Rural South Africa. *Case Study for the World Development Report*. ENERGIA/Norad/World Bank.

<sup>65</sup> Cordes, L. (2011). *Igniting Change: A Strategy for Universal Adoption of Clean Cookstoves and Fuels*. Washington: DC: The Global Alliance for Clean Cookstoves.

Women also face the safety risk of physical and sexual attack during fuel collection trips and/or traveling at night without light.<sup>66</sup> Sexual violence experienced during fuel collection and due to lack of lighting is especially prevalent in conflict and post-conflict/refugee camp settings.<sup>67</sup> As the required frequency and length of fuel collection trips is potentially decreased with the adoption of energy-efficient technologies and women have increased access to sufficient lighting, women will likely experience lower exposure to such safety risks. While some research has been conducted on assault during fuel collection in conflict and post-conflict/camp settings, greater evidence is needed to link these concepts and document the prevalence and nature of such attacks in non-conflict settings.

As users adjust their fuel consumption to more efficient sources, household finances will be impacted by cost savings, directly or indirect resulting from using an energy-efficient technology.<sup>68</sup> If women are household fuel purchasers, they may be more likely to save the difference or allocate more to other important expenses such as educational investments or household items. In addition, households might also leverage energy technologies for income generation, such as selling food prepared on an improved cookstove or tailoring clothing with an electric sewing machine.<sup>69</sup> This could be a new earning opportunity enabled by the technology, or the technology could make existing businesses more efficient in their operations. As women are often the primary users of household energy, they stand to benefit from these new income generating opportunities.



<sup>66</sup> Ibid

<sup>67</sup> MSF. (2005). *The Crushing Burden of Rape: Sexual Violence in Darfur*. Medecins sans Frontieres.  
Kasirye, B.G., Matinga, M. & Clancy, J. (2009). Fuel Security and Supply Dynamics in Internally Displaced Persons' Camps of Northern Uganda. *Journal of Humanitarian Assistance*.

<sup>68</sup> Adams, N. (2011). *Household Cookstoves, Environment, Health, and Climate Change: A New Look At An Old Problem*. Washington, DC: The World Bank Group.

<sup>69</sup> Banerjee, A. & Duflo, E. (2007). The Economic Lives of the Poor. *Journal of Economic Perspectives*, 21 (1) 141-167.

## Annex 2: Government Programmes and Schemes in India

### National Level Programmes and Schemes

Government Programme/ Scheme	Services provided						Focus	
Description	Funding	Skilling/ Training	Marketing	Mentorship	Incubation/ Acceleration	Ecosystem Development	On Women	On Energy
<p><i>Prime Minister's Employment Generation Programme (PMEGP)</i> Credit-linked subsidy programme to generate self-employment opportunities through establishment of micro-enterprises in the non-farm sector. All beneficiaries of PMEGP are connected to and mandated to receive training through the Entrepreneurship Development Programmes (EDPs). The 2-3 weeks training programme includes orientation and awareness pertaining to various managerial and operational functions like finance, production, marketing, enterprise management, banking formalities, bookkeeping, etc.</p>	<p><b>Rs. 5 lakh in business/ services sector</b></p> <p><b>Rs. 10 lakh in manufacturing sector</b></p>	●	●			●	None	None
<p><i>Credit Guarantee Trust Fund for Micro and Small Enterprises (CGT-MSE)</i> Provides guarantee cover to the portion of credit that is not covered by collateral security.</p>	Credit guarantee						None	None
<p><i>Prime Minister's Mudra Yojna (PMMY)</i> Credit facility that enables those in non-farm sectors to borrow from public sector banks. The loan doesn't have a subsidy, but it does not seek any collateral and the repayment period is up to 5 years.</p>	Loans for Rs. 10 lakh						Yes	None

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<p><b>Start Up India</b></p> <p>Aims to create ecosystem for entrepreneurship through:</p> <ul style="list-style-type: none"> <li>• Better infrastructure including incubation centres</li> <li>• Easier IPR (Intellectual property rights) facilitation, including easier patent filing</li> <li>• Conducive regulatory environment including tax benefits, easier compliance, improved of setting up a company, faster exit mechanisms and more</li> <li>• Economic stimulus in the form a INR 10,000 crore Fund of Funds managed by SIDBI, with the goal of increasing funding opportunities</li> <li>• Range of useful resources and a vast networking database for entrepreneurs and other stakeholders in the start-up ecosystem through the Start Up web portal</li> <li>• A toll-free helpline and quick email query resolution for start-ups</li> </ul>							●	None	None
<p><b>Stand Up India</b></p> <p>Facilitates access to bank loans, provides support for sourcing raw materials, bill discounting, registration on electronic market, registration for taxation, etc.</p>	Loans for Rs. 10 Lakh - Rs. 1 crore						●	Yes	None

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Government Programme/ Scheme	Services provided						Focus		
	Description	Funding	Skilling/ Training	Marketing	Mentorship	Incubation/ Acceleration	Ecosystem Development	On Women	On Energy
<p><i>Atal Innovation Mission (AIM) through NITI Aayog</i></p> <p>“Its objective is to serve as a platform for promotion of world-class Innovation Hubs, Grand Challenges, Start-up businesses and other self-employment activities, particularly in technology driven areas”. Two main components:</p> <ol style="list-style-type: none"> <li>1. Entrepreneur promotion- support and mentoring for entrepreneurs</li> <li>2. Innovation promotion- Atal Tinkering Labs (at school level); Atal Incubation Centres (at the university and industry level); Scale-up support to established incubators</li> </ol>	Grants up to Rs. 10 crore	●			●	●	●	Yes	Yes
<p><i>Make in India</i></p> <p>Attract investments from around the globe and strengthen India’s manufacturing sector. The programme is designed to facilitate investment, foster innovation, enhance skill development, protect intellectual property and create world class manufacturing infrastructure in the country.</p>	●						●	None	Yes
<p><i>Pradhan Mantri Kaushal Vikas Yojna (PMKVY)</i></p> <p>Provides skilling and certification that enables a large number of young people to gain industry relevant skills and livelihoods (both wage labour, self-employment and entrepreneurship).</p>		●						None	None

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Government Programme/ Scheme	Services provided						Focus		
	Description	Funding	Skilling/ Training	Marketing	Mentorship	Incubation/ Acceleration	Ecosystem Development	On Women	On Energy
<p><i>Mabla E-Haat</i></p> <p>Online marketing platform for women, where participants can display and sell their products directly to buyers</p>			●					Yes	None
<p><i>Government E-Market (GEM)</i></p> <p>A one stop portal to enable online procurement of goods and services required by various Government Departments / Organisations / Public Sector Units.</p>			●					None	None
<p><i>National Small Industries Corporation (NSIC): Incubation Centre, Delhi</i></p> <p>Promote, aid and foster the growth of micro, small and medium enterprises in the country through the following:</p> <ul style="list-style-type: none"> <li>• Access to government tenders</li> <li>• Single point registration for MSEs</li> <li>• B2B web portal for selling/purchasing</li> <li>• Market intelligence</li> <li>• Exhibitions and technology fairs</li> <li>• Buyer-seller connections</li> <li>• Credit support</li> <li>• Financial assistance for procurement of raw materials</li> <li>• Access to financing through public banks</li> <li>• Technology support</li> <li>• Enterprise development training course/skills development</li> </ul>	●	●	●			●	●	Yes	None

## State-Level Programmes

- The Telangana government recently launched WE-Hub, a state-led incubator exclusively for start-ups led by women.
- The government of Rajasthan Start-up fund worth INR 5 billion sets aside about INR 1 billion exclusively for providing loans and equity funding to women-led businesses.
- Karnataka fund of INR 100 million for women entrepreneurs of the state has also been announced by the state government.
- Also with Government of Karnataka in partnership with Catalyst for Women Entrepreneurs (CWE): launched an incubator and co-working space for women entrepreneurs to provide mentoring and access to finance, markets, enabling technology, information and trade networks to technology-based enterprises led by women.
- Government of Maharashtra has instituted a special industrial policy for women entrepreneurs: Can avail of financial assistance from INR 1.5M to INR 10M in proportion to 15% to 35% of capital investment of the project at a subsidized interest rate of 5%. The policy also includes provisions related to reservation of land for women industrialists and subsidised electricity rates, among other things.



Promotion of Women in Energy Related Enterprises for Development

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Programme by



Researcher

