This note provides practical steps that infrastructure organizations can take in order to begin the change process. Needless to say, concerted and sustained efforts, especially from leadership, are required to ensure that women are given genuine opportunities to enter the sector, and that they continue to be supported as they progress in their STEM careers.

STARTING A DIALOGUE ON STAFFING, AND BUILDING LEADERSHIP BUY-IN

Before starting a conversation about the status of female staffing in an organization, it is important to ascertain whether management is interested in and/or open to discussing human resource (HR) needs. While managers might be generally aware of the strengths and weaknesses of their workforce, the specific challenges that female staff typically face may not be their top priority.

A useful first step may be to start by asking questions about any institutional challenges the organization is facing, and allow that to lead into a discussion of how working on staffing issues might help to effectively address them. Determining whether the organization has sufficient technical staff with the skills needed to adequately operate and maintain facilities, for example, might help managers realize that providing opportunities for upskilling could be helpful in filling any gaps. Discussing ways to recruit talent, and minimize staff turnover or attrition can also be part of this conversation.

The next step is to determine whether the organization is collecting sex-disaggregated data. Sharing international experience from infrastructure entities that have faced similar challenges, and explaining how they overcame them by making their workforce more equitable while staying competitive in the market could be helpful. For example, Ethiopian Electric Utility’s experience has catalyzed further action in the
sector, with Ethiopian Electric Power now moving forward on building a similar program.

Buy-in by senior leadership is critical to any organizational change process. Leaders who demonstrate a genuine understanding of the importance of women’s participation in the workforce can encourage others to take the goal of gender equality seriously. Transformational leaders can articulate clear and meaningful goals; urge employees to rise above their self-interest to support collective goals; and communicate this vision to a broad set of stakeholders. Buy-in by senior management can also help maintain momentum and commitment to change, and can help ensure that the necessary resources will be allocated to the effort.

When engaging senior leadership, it is important for the HR and change management teams to ensure that decision makers and potential high-level champions are also engaged. Senior leaders may be able to make institutional commitments, but it is the departments and employees who will be crucial in actually driving the change process. Within the organization, the leaders of HR, institutional relations, governance, training and development, and corporate social responsibility (CSR) are all needed in order to enact relevant policies and implement institutional changes.

One way of motivating an organization’s leadership and stakeholders to actively support inclusion of women in the STEM workforce is for the project team to point to national agendas and international agreements that aim to advance gender equality. Explaining the links between skills development, or childcare services, and laws and policies at the national level can help lend credibility to these efforts. This approach can also help build buy-in and advance the adoption of strategies designed to support women in the workplace.

ASSESSING WOMEN’S EMPLOYMENT AND INCLUSION IN THE WORKPLACE

The next steps are to gather sex-disaggregated data, conduct analyses, and develop an evidence base. This data will provide helpful insight into the challenge areas, as well as the most promising areas for intervention.

Consider Hiring Experts

World Bank project teams may want to hire an expert with gender analysis experience related to female labor force participation, women’s employment, and/or women’s employment in STEM jobs, as well as rights-based approaches to focusing on disparities between women and men. Expertise in human resources, gender audits, and program design, as well as monitoring and evaluation (M&E), may also be helpful. Gender experts can support a review of the evidence and the data-collection efforts, and can help link the data to specific recommended actions, targets, and relevant M&E indicators.

Use Secondary Data Sources to Better Understand Gender Equality Issues

Existing data and resources can help project teams better understand a given country’s laws, regulations, and policies. At the country level, exploring sector-specific policies and ministry-led, as well as civil society efforts to achieve gender equality, can be helpful (Box 4).

Examine National Development Strategies

Evaluating national development strategies can also be helpful. For example, the Ethiopia Growth and Transformation Plan 2 contains baseline information, and has set targets for the number of women that are benefitting from
**BOX 4  Helpful Secondary Data Sources**

**Women, Business and the Law** is a World Bank Group project that collects unique data on the laws and regulations that restrict women’s economic opportunities in 190 economies. This resource covers such topics as accessing institutions, owning property, getting a job, providing incentives to work, going to court, building credit, and protecting women from violence.

The **Social Institutions & Gender Index (SIGI)** is an OECD-supported, cross-country measure of discrimination against women in social institutions through formal and informal laws, social norms, and practices, across 180 countries. SIGI covers four major dimensions of discriminatory social institutions that affect women’s lives: (i) discrimination in the family; (ii) restricted physical integrity; (iii) restricted access to productive and financial resources; and (iv) restricted civil liberties.

The **Global Gender Gap Report**, supported by the World Economic Forum, benchmarks 153 countries on their progress toward gender parity across four dimensions: (i) economic participation and opportunity; (ii) educational attainment; (iii) health and survival; and (iv) political empowerment. The report also includes detailed country profiles and provides sex-disaggregated data across these domains.

The **World Bank Group’s Gender Data Portal** is a comprehensive source of the latest sex-disaggregated data and gender statistics covering demography, education, health, economic opportunities, public life, decision making, and agency.

The **UNESCO Institute for Statistics (UIS)** is a comprehensive resource of statistics regarding education, science, technology and innovation, and culture.

The **OECD Gender Data Portal** includes specific indicators that shed light on gender inequalities in education, employment, entrepreneurship, health, and development, including data on female scientists and women’s STEM education. The data sets cover OECD member countries, as well as partner economies in Brazil, China, India, Indonesia, and South Africa.

The **Global Women’s Leadership Index** of the Wilson Center tracks women in governments around the world; describes how much power they hold; and explains how they progressed to their positions of leadership. The data is split into three pillars—pathways, positions, and power—to elucidate correlations between a variety of variables, decisions, and policies, and to show how they ultimately affect the degree of power held by women in public office.
vocational adult education programs, as well as the percentage of government institutions that provide childcare services. These elements may help World Bank project teams work with relevant counterparts to push for reforms in national laws and policies, and to develop sector strategies for driving actions that will help close the gaps between women and men in STEM employment.

Collect Institutional Data to Understand Women’s Participation Within the Organization

In addition to secondary data, collecting both quantitative and qualitative primary data from within the institution can help clients better understand the level and nature of women’s participation across the institution. Developing an evidence base can shed light on the key challenges the organization is facing, and establish a baseline against which future success can be measured. Such data can provide helpful perspective on the relative participation of men and women within the workforce; highlight ways to achieve greater parity; and gather important information about perceptions and attitudes within the organization.

Teams can start by establishing the scope of the assessment; identifying any existing sex-disaggregated data that is already available through HR databases; and leveraging opportunities to incorporate relevant questions into broader assessment efforts, such as employee engagement surveys. It is important to remember that while HR databases can provide a quantitative picture of women’s participation according to their roles or grades, they cannot assess the perceptions, needs, and challenges to career development that women are facing within the organization.

Assessments should include a general review of HR policies (Box 5), as well as a very careful review of recruitment and advancement practices. This can help to identify the specific ways that gender bias may be affecting women in the workplace. Reviewing collective bargaining agreements, determining the prevalence of sexual harassment, and examining sexual harassment policies, as well as prevention and response mechanisms, should also be carried out.

DEVELOPING A STRATEGY, AND A CORRESPONDING ACTION PLAN

In order to ensure broad implementation of institutional initiatives for supporting women in the STEM workforce—and continuity of those initiatives in the event of staff or leadership changes—the commitment of senior leadership to these goals should be translated into very concrete and specific actions that are clearly spelled out in an institutional plan or strategy.

Developing a strategy that is supported by evidence helps makes the case for necessary changes. A 2018 McKinsey study that researched diversity within the executive teams of 346 companies worldwide found that all of the companies that demonstrated improvements in the inclusion of women over a three-year period

---


5. Those who wish to conduct a survey of sexual harassment in the workplace should follow the ethical and safety guidelines established by the World Health Organization (WHO 2005). Poorly conducted surveys are unethical, because responding to a poorly designed survey could needlessly retraumatize respondents. The WHO guideline outlines some of the methodological, ethical, and safety challenges of conducting research on violence against women and girls (VAWG), and describes a range of innovative techniques that have been used to sensitively, respectfully, and carefully address these challenges.
The companies that succeeded shared these traits: (i) senior leadership commitment that cascades down; (ii) use of data as a means of linking the diversity and inclusion strategy to the business growth strategy; (iii) development of a portfolio of initiatives that promotes a culture of inclusiveness, and demonstrates commitment to increased diversity; and (iv) commitment to local buy-in through strategies tailored to the business area or geographic region (McKinsey & Company 2018).

BOX 5  Sample Questions for Human-Resource Policies Review

Does your organization have a gender nondiscrimination policy?

Does your organization have a committee focused on gender equality?
  • Is there an assigned gender focal point? Does the focal point have decision-making authority?
  • What resources are allocated to this work?

Do you have any recruitment policies specifically focused on women?
  • Do you have any quotas or targets regarding female employees in your organization? If so, what is the targeted percentage or number?
  • Do you have job ads targeted at women?
  • Do you have any outreach channels via women’s professional networks?

Does your organization have recruitment relationships with any universities or trade schools?

Do you have any advancement policies focused on women?
  • Do you have any quotas or targets for the number of women who reach management and/or leadership roles? If so, what is the targeted percentage or number?
  • Do you have structured planning for career growth and advancement?

Do you offer any flexible working arrangements? For example:
  • a. Part-time employment?
  • b. Options for teleworking/telecommuting?
  • c. A gradual phased-in schedule for mothers returning from maternity leave?
  • d. Flexible core hours, or compressed work schedules?
  • e. Other (please specify)?

Source: Adapted from the ESMAP-funded Women in Power Sector Network in South Asia (WePOWER), and the Africa Gender and Energy program available at https://www.esmap.org/multimedia/power-sector-questionnaire-human-resources-training-and-gender-practices

Note: For an expanded list of detailed questions, see Tool 1.1: Gender Audit (IFC 2018).
Closing large gender gaps takes time and requires substantial resources. For many organizations, focusing initial efforts on moderate, achievable gains that have a greater probability of enduring over time through changes in leadership may be the best strategy. For example, it may be better to initially focus the review of HR policies on salary equity rather than trying to move forward with a costly plan for on-site childcare facilities. Specific local contexts must also be understood, and carefully taken into consideration by the World Bank project teams. For example, changes that impact union contracts or collective agreements may take several years to implement: this underlines the need for any actions to be driven by current, on-the-ground realities.

**Setting Specific Goals and Targets**

Diversity initiatives within organizations often focus somewhat narrowly on promoting more women to leadership and professional roles, and tend to spend less time and thought on creating the types of programs that are needed in order to attract a larger number of qualified women candidates to the sector; for example, forming relationships with educational institutions that actively promote both male and female job candidates, and making STEM scholarships available for tertiary education.

Creating specific goals in each job category can enhance opportunities for women in roles that are traditionally male-dominated. These goals can then be embedded in an organization’s overall strategy to address gaps in women’s STEM employment (See Table 1).

The strategy should be very specific about the steps that will be taken to achieve targets set for the recruitment, retention, and advancement of women within the organization. Project teams should support the design; track progress toward project targets and initiatives in the identified focus areas; and help organizations revise and adopt changes in policies as needed.

**Designating Champions at All Levels of the Organization, and Engaging Men**

Designating champions at all levels within an organization can help sustain institutional commitment to change. Employees who are passionate about diversity, inclusion, and women’s full participation in the workforce can be formally assigned to take charge of key initiatives, such as mentorship programs.

They can also be tasked with presenting fresh perspectives, inspiring attitudinal shifts, and supporting the change in norms needed in order for diversity and inclusion strategies to succeed. Project teams can also encourage relevant counterparts to create committees or councils to drive progress through monthly meetings, planning sessions, and roundtables.

Since men occupy the majority of STEM jobs and comprise most of the infrastructure workforce, engaging them as partners and supporters of gender equality initiatives is needed for success. Engaging men as mentors and implementers of inclusion strategies is one way to do this. However, any mentorship program should take care to mitigate the risks of sexual harassment by carefully vetting potential mentors, and letting mentees know about any antiharassment measures that are in place, as well as the mechanisms for reporting harassment.

**Creating Strategic Messaging that Explains How an Inclusive Workforce is Good for Business**

Highlighting the business benefits of promoting gender equality to both employers and employees can help gain broader support than tackling the issue from the perspective of antidiscrimination alone. In fact, messaging that portrays women as victims is regressive and can backfire, further disempowering female staff. On the other hand, positive messaging that communi-
Table 1 Sample Framework for Setting Targets to Improve Women’s Representation in STEM Jobs

<table>
<thead>
<tr>
<th>Target Area Focus</th>
<th>Possible Strategies for Tracking Progress</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identifying evidence-based strategies to enhance women in STEM within the sector or country context</td>
<td>• Undertake a review of best practices that are relevant to the general sector context and related policies, and share findings with the organization’s leadership representatives.</td>
</tr>
<tr>
<td>Establishing a corporate-level commitment to gender equality in STEM employment</td>
<td>• Adopt an institutional strategy and action plan focused on closing the gender gaps in STEM professions.</td>
</tr>
<tr>
<td></td>
<td>• Sign up for a global reporting initiative to track performance on women’s employment (if resources are available).</td>
</tr>
<tr>
<td>Recruiting and retaining an equitable workforce</td>
<td>• Undertake an in-depth review of institutional recruitment, retention, and advancement processes, and related policies.</td>
</tr>
<tr>
<td></td>
<td>• Review all job description materials for potential biases, especially those for technical STEM roles.</td>
</tr>
<tr>
<td></td>
<td>• Develop a retention strategy in response to issues identified during employee surveys and exit interviews, if available.</td>
</tr>
<tr>
<td></td>
<td>• Embed key questions on workplace culture, parental leave, and sexual harassment in employee engagement surveys. Make sure the results of the survey are sex-disaggregated.</td>
</tr>
<tr>
<td></td>
<td>• Ensure that basic facilities such as toilets and dorms are built and/or renovated in such a way that they can accommodate the safety and hygienic needs of both women and men.</td>
</tr>
<tr>
<td>Advancing women’s representation in senior STEM positions</td>
<td>• Establish and monitor targets for women’s representation in management and other leadership roles.</td>
</tr>
<tr>
<td></td>
<td>• Provide progress reports to relevant stakeholders.</td>
</tr>
<tr>
<td></td>
<td>• Increase the ratio of women to men in senior management within a specific timeline.</td>
</tr>
<tr>
<td></td>
<td>• Increase the retention rates for midcareer women.</td>
</tr>
<tr>
<td>Developing overall approaches for enhancing equity in infrastructure entities</td>
<td>• Embed key questions on such issues as workplace culture, parental leave, and sexual harassment in employee engagement surveys. Make sure the results are sex-disaggregated.</td>
</tr>
<tr>
<td></td>
<td>• Ensure basic facilities such as toilets and dorms can safely and comfortably accommodate both women and men.</td>
</tr>
</tbody>
</table>

Note: World Bank project teams or infrastructure institutions can incorporate intended targets in their respective strategies and action plans based on the ideas put forward in the above framework.
cates some of the ways that inclusion can help modernize the organization and increase its competitive edge can help to create a more constructive and welcoming workplace culture.

Failure to articulate these benefits to both workers and unions may derail efforts to achieve gender equality. In order to avoid alienating any particular group, or unintentionally leading to misunderstandings, or backlash, it may be necessary to carefully frame internal communications, always keeping the focus on the benefits that can be realized through a more diverse and inclusive workforce. It may also be helpful to design and implement “soft-incentive” schemes that formally recognize teams who successfully adopt gender equality, and inclusive strategies.

Capturing Results through Reporting Mechanisms

Reporting on changes to the representation of women at all levels of the organization helps to promote institutional transparency and accountability. Project teams can share information about progress achieved through project reports, action plans, and other mechanisms. They should also advise infrastructure entities to announce progress toward their targets in quarterly reports and staff meetings, clearly stating the case for gender equality in STEM employment, and outlining the steps being undertaken by the organization to set and meet planned targets.

New M&E mechanisms may be needed in order to capture both qualitative and quantitative data on the effectiveness of the various approaches, strategies, and activities that have been implemented. Including relevant output and outcome indicators in the project design can help ensure that these indicators are reported on during implementation.

Interventions designed to enhance the comprehensiveness of annual reporting ideally would include the proportion of women employees overall, as well as the number of female senior executives and board members. Encouraging infrastructure entities to disaggregate their employee satisfaction survey by sex can help paint a clearer picture of the current situation, as well as of any progress being made.

MOBILIZING FINANCIAL AND HUMAN RESOURCES

Linking Strategies with the Resources Needed to Support the Implementation of Goals and Targets

The activities outlined in this note require substantial allocation of the financial and human resources needed in order for effective and sustained implementation to occur. The costs incurred may include hiring consultants to deliver a baseline assessment; designing mentorship programs; earmarking funds for STEM scholarships; building or installing new facilities; and purchasing additional gear for women.

Costs vary from country to country, as well as by the type of initiative. Although there are variations depending on the specific context, initiatives for promoting women in STEM and professional roles generally cost more per person than training programs for women in low- and medium-skills jobs (for example, training women as bus drivers, or in the use of heavy machinery). Therefore, closing the gap between women and men in professional roles requires larger, but very worthwhile, investments.
STEPPING UP WOMEN'S STEM CAREERS IN INFRASTRUCTURE

©World Bank / Davasha Photography 2019
REFERENCES


