

Institutional Interventions Towards Gender Parity in Indian Seafaring

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Abstract: Structural barriers that limit women's entry into seafaring are established in the literature. Less well documented is what actually works when institutions and companies choose to act. This paper fills that gap by examining two practitioner-led interventions implemented within the Indian maritime sector, each designed to address a distinct set of conditions that keep women out of or push them out of sea-going careers.

The first intervention is the Women Cadet Programme, designed by the author in collaboration with AMET University, Chennai. The programme operates through six pillars of change that address the conditions shaping women's training experience at the institutional level, rather than focusing on the individual resilience of women cadets. The six pillars cover infrastructural advancement, cultural enhancement, vigilant administration, enriching academic experience, transparency on maritime education and careers, and constant care. The programme set an ambitious target of achieving 50 per cent women in cadet hiring cohorts by 2027. That target was reached two years ahead of schedule, in 2025.

The second intervention is the Gender Sensitisation Training Programme, developed in collaboration with AMET University and funded by the Directorate General of Shipping and the Maritime Training Trust. This programme targets the faculty and support staff attitudes and institutional culture that shape the daily experience of women cadets in training. It is delivered in English and regional languages to ensure reach across different staff profiles and has been shown to shift the informal climate of training environments in measurable ways.

Keywords: Women Seafarers, Women Cadet Programme, Gender Sensitisation Training, Psychological Safety, Institutional Change, Pre-Sea Training, Indian Maritime, Workforce Diversity, ESG, Talent Pipeline.

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I. INTRODUCTION

India has long recognised that its maritime workforce does not reflect the full breadth of available talent. Women remain almost entirely absent from sea-going roles despite growing regulatory attention, industry commitment, and a national crew shortage that makes the exclusion increasingly difficult to justify. The more useful question is no longer why the gap exists. It is what specific actions, taken by specific institutions and companies, have actually moved the numbers. That is what this paper examines.

India's position in global shipping makes this question commercially significant. The country supplies roughly 12 per cent of the world's certified seafarers (Ministry of Ports, Shipping and Waterways, 2023). Women account for fewer

than one per cent of Indian seafarer certificates (Directorate General of Shipping [DGS], 2023). Meanwhile, crew shortages are worsening as the global officer pool ages, and environmental, social, and governance (ESG) obligations make workforce diversity a business requirement as much as an ethical one (International Maritime Organization [IMO] & WISTA International, 2024). The question is no longer whether to include women in the seafaring workforce. It is how to do it effectively and at scale.

Across the industry, platforms such as Equal at Sea have emerged to channel this urgency into coordinated action. Equal at Sea brings together policymakers and industry professionals to chart a more inclusive course for shipping. It is built on the belief that transforming traditions and setting new standards are the conditions under which

women can pursue seafaring careers on equal terms. The Equal at Sea conferences have become a reference point for practitioners working on gender inclusion in maritime, and it has helped create a climate in which company-level commitments are visible, tracked, and compared. A leading global container logistics company, through its participation in and hosting of the Equal at Sea initiative, has demonstrated that achieving gender parity in cadet intake is not a theoretical aspiration but an operational reality. That company reached 50 per cent women in its cadet cohorts by 2025, and the design choices behind that outcome inform the discussion in this paper.

This paper draws on the author's direct experience as designer and lead implementer of two institutional programmes: the Women Cadet Programme and the Gender Sensitisation Training Programme, both developed in collaboration with AMET University, Chennai. The analysis is grounded in doctoral research conducted at AMET University, which surveyed over one thousand maritime respondents across four career stages. Survey data are discussed thematically in line with the study's confidentiality protocol.

The argument is straightforward. Achieving meaningful gender inclusion in Indian maritime is technically possible. The interventions described here provide evidence of that. What each required was the same: deliberate design, institutional backing, and accountability for outcomes.

II. REVIEW OF LITERATURE

Women remain significantly underrepresented in seafaring globally, and most acutely in the officer and command ranks. The IMO and WISTA International (2024) survey estimates that women account for approximately two per cent of the global seafaring workforce, with the majority concentrated in hospitality and passenger shipping roles rather than technical or deck functions. In the Indian context, the gap is sharper still. Narayanan et al. (2023) identify a layered set of structural barriers: restrictive admission practices at maritime training institutes, inadequate physical infrastructure for women residential students, social norms discouraging sea-going careers for women, and employer-level reluctance to invest in the conditions that would make mixed-gender crewing viable.

Kitada (2021) situates these barriers within a broader pattern of occupational exclusion, arguing that seafaring has historically been constructed as masculine not merely in culture but in its physical and institutional design. This construction is reproduced at the training stage before women have even entered employment. Barahona-Fuentes and Castells-Sanabra (2025) extend this analysis to the career intention formation of women maritime students, showing that the perceived quality of the training environment significantly predicts whether women intend to pursue sea-going careers after graduation.

Psychological safety, as theorised by Edmondson (1999), has emerged as a key explanatory variable in this context. Edmondson defines it as the shared belief within a team or institution that interpersonal risk-taking will not be punished. In settings where women fear professional consequences for speaking up, asking questions, or simply being visible, learning is impaired and retention suffers. Applying this framework to maritime training, Pike et al. (2021) find that peer acceptance of women in mixed-gender crew environments is one of the strongest predictors of early-career retention. The implication is that institutional culture, not individual resilience, is the primary lever.

Institutional theory as developed by DiMaggio and Powell (1983) provides the structural logic for intervention design. Organisational fields, including maritime training, tend toward isomorphism: institutions reproduce existing norms because doing so is rewarded and deviation carries risk. Changing the gender composition of a training cohort or a vessel crew therefore requires more than individual willingness. It requires changing the rules, incentives, and taken-for-granted assumptions that produce the current pattern. This points toward systemic rather than individual-level intervention.

Karunatileke et al. (2024) document that women most commonly exit maritime careers in the first two years of employment, and that the quality of the early institutional environment is the strongest predictor of whether they remain. This finding is significant for programme design: it suggests that investment in the training environment is not merely a recruitment tool but a retention mechanism whose effects compound through the pipeline.

The literature converges on a shared conclusion. Effective intervention requires action at the institutional level, sustained over time, and across multiple dimensions simultaneously. Single-point initiatives, whether awareness campaigns, individual mentoring, or isolated policy statements, have a consistently poor record. What works is coordinated, structured, and accountable institutional change. The two programmes examined in this paper were designed with that evidence base in mind.

III. RESEARCH METHODOLOGY

This paper draws on a mixed approach that combines practitioner-led programme design experience with quantitative survey data gathered as part of doctoral research at AMET University. The primary empirical source is a structured survey of 1,050 maritime respondents across four career stages: pre-sea cadets, sailing cadets, current seafarers, and former seafarers who have exited the profession. The survey instrument was developed to capture respondents' experiences of structural barriers, psychological safety, and institutional support across the career lifecycle.

Stratified random sampling was used to ensure adequate representation across each respondent category. Cochran's formula was applied to determine the minimum

sample size required for statistical reliability at the 95 per cent confidence level. The survey was administered digitally and distributed through maritime training institutes and industry partner networks in India.

In addition to the survey data, this paper draws on the author's direct implementation experience as designer of the Women Cadet Programme and the Gender Sensitisation Training Programme. Programme documentation, governance records, and cohort outcome data inform the descriptive analysis in Sections 4 and 5. Survey data are reported thematically, in accordance with the study's confidentiality protocol, and individual respondents or institutions are not identified.

The analytical approach is descriptive and interpretive rather than inferential. The paper does not seek to establish causal relationships between specific interventions and outcomes, but to document the design logic, implementation mechanisms, and observed effects of two programmes developed with a common theoretical foundation. Where survey data are cited, they are used to illustrate patterns that are consistent with the broader literature rather than to make generalisable statistical claims.

IV. THE WOMEN CADET PROGRAMME

➤ *Design Philosophy*

The Women Cadet Programme was built on a premise that shaped every decision made during its development: the institutional conditions surrounding women's training experience carry more weight than the individual attributes of the women who enter the programme. Earlier interventions in this domain had typically focused on equipping women to navigate an unwelcoming system, coaching their professional conduct, and building personal resilience. This programme took a different position. It focused on changing the institution itself.

The programme was developed through structured consultation with maritime faculty, women cadet cohorts, and industry practitioners. It was implemented in collaboration with AMET University, Chennai. The design drew directly on Edmondson's (1999) framework of psychological safety, which identifies the shared belief that interpersonal risk-taking is safe as a foundational condition for both learning and performance. In training environments where women feel exposed to professional consequences for speaking up or simply being themselves, learning suffers and attrition follows. The programme aimed to build institutional conditions where psychological safety was not an aspiration but a working norm.

Institutional theory as articulated by DiMaggio and Powell (1983) shaped the programme's structural logic. The male-default assumptions that pervade maritime training are not the product of individual intent. They are embedded in routines, physical arrangements, and professional expectations that have accumulated over decades without scrutiny. Changing them requires intervention at the level of

institutional rules and relationships, not simply awareness campaigns directed at individuals.

➤ *The Six Pillars*

The programme is organised around six pillars. Each pillar targets a specific condition that shapes the daily experience of women cadets in training.

• *Pillar 1: Infrastructural Advancement*

The first pillar addresses the physical environment of the training institution. Infrastructure suitable and accessible for residential women students is treated as a threshold condition, not an optional provision. Before any cadet intake, institutions are required to audit dormitory capacity, sanitation facilities, sports infrastructure, and recreational spaces against the requirements of a mixed-gender student population. Observed gaps addressed under this pillar have included the installation of additional washroom facilities and the provision of sanitary products in both academic and administrative blocks, the construction of changing facilities at shipboard simulation locations, the development of unisex gymnasium access, and the expansion of badminton courts with accessible siting for women cadets. Infrastructure inadequacy communicates, however unintentionally, that an institution was not expecting women and has not prepared for them. Resolving it is therefore an act of practical necessity to drive sustainable change.

• *Pillar 2: Cultural Enhancement*

The second pillar focuses on creating a learning environment that is both psychologically and physically safe. It aims to produce ethical future leaders through an institutional culture that reflects organisational values and genuine respect for all students. This pillar encompasses gender sensitisation training for faculty and frontline staff, delivered periodically rather than as a single-session exercise. Women cadets and their male peers receive training on diversity, equity, and inclusion, alongside anti-harassment, anti-bullying, and awareness of the Prevention of Sexual Harassment (POSH) framework. Allyship training for all faculty reinforces the norm that responsibility for a safe environment is shared across the institution. The pillar also involves identifying student-level change ambassadors who drive an inclusive culture from within peer groups, a mechanism that extends the reach of institutional efforts beyond what top-down policy alone can achieve.

• *Pillar 3: Vigilant Administration*

The third pillar establishes management buy-in as a non-negotiable condition of the programme. Leadership engagement is required in substance rather than in statement. Practically, this involves aligning the institution's grievance redressal systems with fleet-level practices, so that women cadets move from training into employment without encountering a discontinuity in how concerns are handled. A functioning student council, operating within a clear framework and meeting periodically with institutional leadership, provides a structured channel for identifying and addressing issues before they escalate. POSH training and awareness are embedded in the institutional operating model

and communicated in accessible rather than regulatory language.

- *Pillar 4: Enriching Academic Experience*

The fourth pillar addresses the quality and equity of the educational experience itself. Women cadets participate in the same practical activities, watch-keeping rotations, technical assessments, and co-curricular opportunities as their male peers, without substitution or exemption. Actions taken under this pillar have included opening swimming pool to unisex access, the formation of women's sports teams, participation of women students in the college band, and developing adequate gymnasium facilities. Academic learning is also designed to remain current with developments in the fleet and the wider shipping ecosystem, with periodic exchanges between the institution and industry partners to keep the curriculum aligned with operational realities. Cadets are encouraged to explore new ideas in an environment free from the fear of ridicule, supported by leadership training programmes designed to build professional confidence.

- *Pillar 5: Transparency on Maritime Education and Careers*

The fifth pillar addresses the information gap that exists between prospective cadets and the lived reality of maritime training. Applicants who enter without a realistic understanding of campus life, daily routines, and institutional expectations are more likely to experience shock, disillusionment, or early exit. This pillar operates on the principle that transparency builds trust. Practical actions include the development of a dedicated Life on Campus programme with open days for school students and parents, a dedicated Women Cadet Programme landing page within the AMET University website, and the creation of a dedicated helpline and email address integrated into university policy. These measures address the persistent myth that seafaring is a career available only to men, and they ensure that prospective cadets know how to raise concerns from the moment they consider applying.

- *Pillar 6: Constant Care*

The sixth pillar builds continuity into the programme through structured review. Quality is monitored through an audit framework that tracks vendor performance, the quality of facilities, and the overall institutional environment against agreed standards. A planned roadmap of periodic interactions between cadets and organisational representatives from the sponsoring company ensures that women cadets do not experience a disconnect from the industry throughout their training years. This matters because the transition from campus to vessel is a known attrition point. Karunatileke et al. (2024) document that women most commonly exit maritime careers within the first two years, and that the quality of the early institutional environment is the strongest predictor of whether they remain. Maintaining an active connection between cadets and the employing organisation during the training phase reduces the abruptness of that transition.

- *Outcomes and Pipeline Effects*

The programme set an ambitious target of 50 per cent women in cadet hiring cohorts by 2027. That target was achieved in 2025, two years ahead of schedule. No single pillar produced this result. The combination of adequate infrastructure, a safe institutional culture, accountable leadership, enriched academic experience, honest pre-entry communication, and continuous review changed the institutional conditions in ways that each individual intervention could not have achieved alone.

The pipeline implications extend beyond cohort numbers. A cadet who trains within a structured, accountable, and psychologically safe environment is more likely to complete the programme and more likely to take up a sea appointment on graduation. As Karunatileke et al. (2024) document, early-stage retention compounds across the pipeline, making the Women Cadet Programme a retention investment as much as a recruitment one.

The Equal at Sea initiative demonstrates that this logic applies beyond a single institution. The initiative brings together policymakers and shipping industry leaders to drive systemic change for women in seafaring, with the aim of transforming professional traditions and establishing new industry-wide standards. The programme's six-pillar model is directly compatible with company-level preparation of the kind Equal at Sea promotes, and the two approaches reinforce each other when implemented in parallel.

AMET University's decision to jointly design and implement the Women Cadet Programme ahead of demonstrable industry demand reflects an institutional maturity that deserves recognition. Most maritime training institutes in India waited for application numbers to justify investment in gender-inclusive infrastructure and policy. AMET inverted that logic, building the conditions first and trusting that women would come when the environment was genuinely ready for them. That willingness to act before the market signalled certainty is precisely what made the programme's outcomes possible.

V. THE GENDER SENSITISATION TRAINING PROGRAMME

- *Rationale and Design*

The Gender Sensitisation Training Programme grew directly from the Women Cadet Programme's third pillar. As the Women Cadet Programme was rolled out, it became clear that faculty and support staff attitudes were among the most consequential and least addressed variables in the training environment. Faculty who held assumptions about women's physical capability, professional commitment, or emotional suitability for sea-going careers shaped instruction in ways that disadvantaged women cadets, often without recognising it.

The programme was developed in collaboration with AMET University and received funding from the Directorate General of Shipping and the Maritime Training Trust. That funding context carries weight. It signals that

this is not an optional extra but a formally recognised professional development activity within the Indian maritime training system. Regulatory backing creates the conditions for institutional uptake that voluntary initiatives rarely achieve.

The design avoided a compliance-oriented frame. Faculty are not told that their attitudes are wrong or that they are obliged to change. Instead, the programme builds awareness of how assumptions operate in practice and develops the concrete professional skills needed to support a mixed-gender learning environment effectively. This approach is more likely to produce lasting change than obligation alone. Edmondson (1999) notes that psychological safety at the team level is strongly shaped by leader and faculty behaviour. Changing that behaviour requires building new professional habits, not simply requiring new ones.

➤ *Delivery and Reach*

The programme is delivered in English and in regional languages. This is not a logistical detail. India's maritime training institutes employ faculty and support staff with varying language backgrounds, and a programme delivered only in English would fail to reach the support staff whose daily interactions with cadets are frequent and formative. Translations were developed in collaboration with language practitioners who also had familiarity with the maritime training environment.

Delivery is structured around case-based learning drawn from real scenarios encountered in maritime training. Participants work through situations involving mixed-gender team dynamics, assessment and feedback, grievance handling, and peer interaction. The goal is practical professional competence rather than theoretical awareness.

Periodic redelivery is built into the programme schedule. Single-session training produces attitude change that decays rapidly without reinforcement (Edmondson, 1999). Periodic delivery, combined with the ongoing institutional accountability framework of the Women Cadet Programme, provides the reinforcement needed to sustain changes in faculty culture over time. New faculty are inducted into the programme as they join an institution.

➤ *Impact on Institutional Climate*

The most direct measure of the programme's effect is the reported experience of women cadets in institutions where faculty have completed it. Survey data from the doctoral research that underpins this paper indicate that women cadets in these institutions are more likely to feel professionally respected by faculty, more likely to raise concerns through official channels, and more likely to describe their training environment as one where they are judged on performance rather than on gender. These are not peripheral outcomes. They are the institutional conditions that Edmondson (1999) identifies as prerequisites for effective learning and sustained engagement.

Faculty self-report shows a consistent pattern. Participants describe a shift from a protective orientation, in which the faculty member sees their role as managing women's presence in what remains a male environment, toward an equitable one, in which their role is simply teaching, the same role they hold with all students. This shift is not cosmetic. It changes the texture of daily interaction in ways that are felt by cadets long before any formal policy adjustment takes effect.

The Gender Sensitisation Training Programme also has implications beyond the campus. Faculty who develop these professional skills carry them into the wider maritime community. They advise families of prospective cadets, contribute to institutional policy discussions, and interact with industry partners. The programme's reach therefore extends beyond the training environment in which it is formally delivered.

VI. INDUSTRY-LEVEL MOMENTUM AND THE EQUAL AT SEA MOVEMENT

Institutional programmes at the training level are necessary but not sufficient on their own. Women who complete maritime training well still face recruitment environments, onboard cultures, and career structures that were not designed with them in mind. The gains made at the training stage can be reversed quickly at the employment stage if companies have not made parallel investments in readiness.

The Equal at Sea movement has emerged as the most visible industry-level effort to address this gap in the Indian and global maritime context. It is a platform that brings together policymakers, shipping company leaders, training institutions, and regulators with a shared commitment to creating an ecosystem in which men and women are treated equally, provided equitable opportunities, and supported to thrive. The annual Equal at Sea conference, held in India, has become a reference event for practitioners working on gender inclusion in maritime. It creates a space where commitments are made publicly, progress is shared transparently, and the business case for change is articulated to audiences that include both advocates and sceptics.

A leading global container logistics company, which hosts and drives the Equal at Sea initiative, has demonstrated what company-level commitment looks like in practice. Before hiring women cadets at scale, the company prepared its vessels for mixed-gender crewing, reviewed and enforced its anti-harassment policies, trained its shore-based HR teams on the specific support needs of women seafarers, and briefed existing crew on what mixed-gender operations would require. This sequencing, designing the conditions first and then hiring toward them, is the inverse of how most diversity initiatives are structured, and it is a significant reason why most of them underperform. Pike et al. (2021) note that peer acceptance of mixed-gender crews is one of the strongest predictors of early-career retention among women seafarers. Addressing it proactively rather than reactively makes a measurable difference.

By 2025, that company's new cadet intake had reached gender parity. ESG reporting became substantively rather than symbolically compliant, which matters commercially in a market where charterers and investors increasingly apply ESG screens to supplier and partner selection (IMO & WISTA International, 2024).

The Women Cadet Programme and the Gender Sensitisation Training Programme are designed to feed this kind of company-level pipeline. A cadet who completes training in a psychologically safe, equitably designed institution is better prepared for the transition to sea employment, and better positioned to contribute from the start. The training institution and the employing company are two ends of the same pipeline. When both invest in inclusive design, the pipeline works. When only one does, the gains at one end are lost at the other.

VII. A SCALING FRAMEWORK FOR INSTITUTES AND COMPANIES

➤ *For Maritime Training Institutes*

The Women Cadet Programme and the Gender Sensitisation Training Programme together constitute a replicable model. The elements described below are the minimum conditions for effective implementation.

Infrastructure adequacy is a threshold condition. Before recruiting women cadets, an institute should audit its physical environment against the requirements of a mixed-gender student body and address gaps as a non-negotiable priority. Infrastructure inadequacy is not a minor inconvenience. It signals to women cadets that the institution was not expecting them and is not ready for them.

Faculty sensitisation must be periodic and multilingual. A single session is not sufficient. The programme should be embedded in the annual professional development calendar and should reach all staff who interact with cadets, including administrative and support staff. New faculty should be inducted into the programme before they begin teaching.

Grievance mechanisms must be visible, credible, and monitored and represent an institution's zero-tolerance policy. Women cadets should know the process exists, trust that it is confidential, and believe that using it will not affect their standing. Grievance process usage should be monitored as a programme health indicator, even when low.

Structured mentoring by practising women maritime professionals should be formalised into the programme calendar where possible rather than organised on an ad hoc basis. Mentoring relationships structured around professional development goals produce better outcomes than those structured around pastoral support alone.

Leadership accountability must be explicit and measurable. Department heads and programme directors should themselves reflect adequate gender representation, and they should carry responsibility for the quality of the

training environment they oversee. Both dimensions should be reviewed at governance level, not delegated to administrative staff.

➤ *For Shipping Companies*

The industry evidence, including the outcomes described in this paper and the progress documented through the Equal at Sea movement, points consistently to the same sequence: design the conditions first, then hire at scale.

In the preparation phase, companies should audit onboard accommodation for mixed-gender crewing, update and genuinely enforce anti-harassment policies, train shore-based Marine HR teams on hiring biases and women seafarers' career support needs, and brief existing crew on mixed-gender operations. This phase should be substantially complete before women are hired in significant numbers. Emad and Fei (2023) argue that the absence of a prepared environment is one of the most commonly cited reasons for early attrition among women seafarers, and that it is preventable with advance planning.

In the sponsorship phase, companies should design a structured cadet pathway that includes financial support through pre-sea training and a confirmed employment route on completion. The pathway should include regular check-ins, a named support contact, and a clear progression plan to officer rank. A visible route to career advancement is one of the strongest factors in early-career retention (Karunatileke et al., 2024).

In the accountability phase, companies should track numbers for gender representation in cadet cohorts and at key career transition points, and they should report progress alongside other strategic metrics. IMO and WISTA International (2024) note that public commitments with transparent progress reporting produce better outcomes than internal targets alone. Participation in industry platforms such as Equal at Sea provides a framework for this kind of accountable public commitment.

➤ *Coordinated Action Across the System*

The most effective interventions work at multiple levels of the system simultaneously. A training institute that implements all six pillars of the Women Cadet Programme will still lose women at the recruitment stage if the companies they apply to are not prepared. A company that builds an excellent onboarding environment will still struggle to fill its cadet pipeline if the training institutes supplying it have not addressed their own institutional climate.

Narayanan et al. (2023) argue that coordination between regulators, training institutions, and employers is the defining feature that separates countries with genuine progress on maritime gender equity from those without it. The regulatory anchor for this coordination in India is the DGS. Its role in connecting training institutes with companies through accreditation standards, data reporting requirements, and scholarship coordination is central to any system-level reform.

Practitioners can speed up their implementation of such programmes for greater gender participation via bilateral partnerships. Training institutes and companies that share a commitment to gender inclusion can create direct pipelines: structured recruitment pathways with jointly designed mentoring, shared sponsorship arrangements, and mutual accountability for outcomes. These partnerships are smaller in scale than system-level reform, but faster to implement. They also generate the evidence base that regulators eventually need in order to act at scale.

VIII. CONCLUSION

The Women Cadet Programme and the Gender Sensitisation Training Programme demonstrate that meaningful progress on gender inclusion in Indian maritime is achievable within a defined timeframe when institutions commit to structural rather than cosmetic change. Reaching 50 per cent women in cadet hiring cohorts by 2025, two years ahead of target, was not the product of a single initiative. It reflected the cumulative effect of six pillars operating together, each addressing a specific barrier that the others could not resolve alone.

The evidence from both programmes reinforces what the literature has long indicated: institutional conditions, not individual resilience, determine whether women enter, remain in, and progress through seafaring careers. Faculty behaviour, physical infrastructure, grievance mechanisms, leadership accountability, and career transparency each play a role that cannot be substituted by the other. When these elements are aligned and sustained, the pipeline works.

The scaling framework presented in this paper offers a replicable path for other training institutes and shipping companies in India and beyond. The conditions for success are known. The regulatory architecture, in the form of DGS guidelines and the POSH framework, is in place. What remains is the institutional will to act before the numbers demand it, to build the environment first and trust that women will come. AMET University demonstrated that this is possible. The challenge now is to make it the norm rather than the exception.

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