

Distinguished speakers and delegates, ladies and gentlemen,

I would like to thank the United Nations Entity for Gender Equality and the Empowerment of Women for inviting me to be a speaker at this Forum. It's a great honor to be here.

Ladies and gentlemen,

Allow me to start with a story, the story of Emily Warren Roebling. It all started when one unusually brave, and extraordinary woman, stepped in to become the "first woman field engineer". She took charge of the completion of the Brooklyn Bridge after her husband was disease stricken. Throughout her work, Emily Roebling made many advances for women, especially women engineers.

However, unfortunately, engineering for the most part remains a predominantly male profession.

Women still make up less than 10 percent of working engineers in US today [1].

Meanwhile, at present in the UAE, women make up 65% of university graduates [2]. Women are now the majority of graduates in high school and college, and their numbers are increasing in almost all graduate schools especially in engineering. Nonetheless, women's enrollment in engineering does not automatically lead to higher female labor force participation. That figure is about 25% for women working as engineers and scientist [3].

Is this situation changing? Yes. Are there more women engineers joining the workforce every year? Yes.

But despite this increase, why are there so few women in engineering? There is an ever increasing body of research providing some insight into the challenges faced by female engineers, but I can only talk about my own experience and those of the other female engineers I have known in my life.

Working conditions is one of the main concerns that discourage the female engineer to take up engineering jobs. Workplaces are small, daily promotions denied or offered too soon with little support in a new and difficult position. All of this leads to a feeling of being set up for failure. Often these leave the women with no choice but to leave and show that "a woman in engineering today is often a woman alone".

The main challenge that women in Middle East face is family and social pressure. The Arab girl wants to be a good daughter, mother, wife, but she still wants to fulfill her own needs.

How can we do that? By changing the long-time traditions and attempting to re-draw "social mentality".

Is it easy? Definitely not, but it is always good to remember that those women who fought for their rights long time ago, worked with worse conditions and made it easier, even if little, to fight for our place to be female engineers.

Also, institutions and organizations need to provide support, networking, encouragement, and funding to women in engineering. First we must acknowledge the male gender's preference that exists today. Gender equity must be a concrete goal if institutions are serious about achieving gender equality.

For me, I was lucky enough to have tremendous support from my family, educational institutions and country. Masdar institute is a graduate level, research-oriented university which is focused on alternative energy, sustainability, and the environment.

In the first graduating batch of the students from Masdar, almost 28% were female, and this percentage increased to 36% in the second batch.

Since Masdar is an initiative that shows the UAE's commitment towards sustainability and environment, the increase in women enrolment in this institute shows how they are a key force in the sustainable development of the UAE. As a female engineer, I am also proud to say, that my work in Masdar resulted in the invention of a new reactor for the production of biodiesel from waste cooking oil. This patented reactor reuses a waste source to produce biodiesel while reducing pollutant emissions significantly.

Women all over the world are a key force in sustainable development. Oftentimes, women carry the primary responsibility of caring for their families' well-being and household management. Despite these essential responsibilities, women are underrepresented in decision-making that contributes towards socio-economic development. Studies show that female-focused poverty alleviation strategies have worked better than gender neutral solutions.

This reminds me of the saying by Ghanaian scholar Dr. James Kwegyir-Aggrey, "If you educate a man, you educate an individual, but if you educate a woman, you educate a family (or nation)". We are not simply important or key in sustainable development, we are absolutely necessary.

At the end I would like to express my appreciation to the outstanding women, who make daily contributions to engineering through the excellence of their work and their support of other women, professional organizations, and schools.

Also, my thanks extend to the men, the mentors, relatives, colleagues, and leaders who have supported women engineers. And, finally, the institutions and organizations that work for gender equality and Women's Empowerment

Thank you.

- [1] Women in Engineering, Nancy Ramsey.
<http://www.nae.edu/Publications/Bridge/WomeninEngineering7332/TheFutureofWomeninEngineering.aspx>
- [2] Mahani, S. Molki,A. Factors influencing female Emirati students' decision to study engineering. Global Journal of Engineering Education. Volume 13, Number 1, 2011
- [3] R. Lau, J. Williams, N. Hasani, L. Lau. Drilling Into Diversity: Developing the Reservoir of Talent. SPE 145195