

“Challenging Inequalities”

11th International Forum of NGOs in official
partnership with UNESCO

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WFEO

World Federation of
Engineering Organizations



The Institution of
Engineering and Technology



International Network of Women
Engineers and Scientists



MAHSA
UNIVERSITY

Inequality is the Problem

1. Levels of inequality are exceptionally high
2. High inequality causes economic and social harm
3. Social policies can combat inequality
4. We need NGOs and research to identify effective policies, programs, and practices

Policy Can Address Inequality

Committee on Women in Engineering (WIE)

Committee on Information and Communication (CIC)

Committee on Engineering for Innovative Technologies (CEIT)

The Committee for Women in Engineering (WIE) has given women engineers across different continents an opportunity for knowledge sharing across all disciplines of engineering thereby positioning the women engineer for better professional delivery

WFEO-WIE

The main duty of the Committee on Information and Communication (CIC) is to help lead forward Information and Communication Technology in order for it to be applied globally, and focuses on developing countries where narrowing the gap has become essential

WFEO-CIC

The Committee on Engineering for Innovative Technologies (CEIT) has set its objectives in the area of technological advancements to identify and promote suitable technologies for sustainable development, especially in the context of the UN Sustainable Development Goals

WFEO-CEIT



WFEO

World Federation of
Engineering Organizations





World Federation of Engineering Organizations
Fédération Mondiale des Organisations d'Ingénieurs

> WHO WE ARE ▾

WHAT WE DO ▾

WFEO IN ACTION ▾

SUSTAINABLE DEVELOPMENT GOALS ▾

COMMITTEES ▾

Committee on Women in Engineering (WIE) - Overview

Overview

Themes

Sustainable Development Goals

Committee members section

The Committee for Women in Engineering (WIE) has given women engineers across different continents an opportunity for knowledge sharing across all disciplines of engineering thereby positioning the women engineer for better professional delivery

WFEO-WIE



WFEO

World Federation of
Engineering Organizations

► Vision

► To have women and men engineers, in equal opportunity, work to constructively resolve international and national issues, using the strength of their diversity and their differences for the benefit of humanity.

UPCOMING EVENTS



World Intelligence Congress (WIC)

16-19, MAY, TIANJIN, CHINA

<http://www.wicongress.org>



Engineering and Food Security in Africa

24-25, JUNE, TUNIS, TUNISIA

<http://efsafrica.org/en/>



World Robot Conference (WRC)

20-25, AUGUST, BEIJING, CHINA

<http://en.worldrobotconference.com>



World Engineers Convention (WEC2019)

20-22, NOVEMBER, MELBOURNE, AUSTRALIA

<https://www.wec2019.org.au>

Early Bird Registration: by 10 May, 2019



International Network of Women Engineers and Scientists

... building a better future worldwide

[Home](#)[About](#)[News & Events](#)[Resources](#)[Membership](#)[Sponsorship](#)[Conferences](#)[Regional Networks](#)

INWES is a global network of organizations of women in Science, Technology, Engineering and Mathematics (STEM), reaching over 60 countries worldwide. INWES is a not-for-profit corporation governed by a board of directors consisting of directors representing organizations including networks and universities/institutes, and individual memberships.

Korean Institute for Gender Equality Promotion and Education Trainings

Provides various training programs to public officials such as

- ▶ Gender sensitivity promotion education
- ▶ Gender equality policy education
- ▶ Sexual harassment complainants counseling education
- ▶ Sexual harassment
- ▶ Sexual violence prevention education.

These training programs have their legal basis in the Framework

- ▶ Act on Women's Development
- ▶ Act on National Human Rights Commission
- ▶ Act on Sexual Violence
- ▶ Act on Domestic Violence
- ▶ Act on Sexual Harassment
- ▶ Act on Child Welfare
- ▶ Act on the Prevention of the Sex Trade.

These training programs are provided upon voluntary request, with the exception of government officials directly responsible for related tasks and obligated to perform them.

WOMEN'S PARTICIPATION IN STEM: THE CURRENT SITUATION IN MALAYSIA

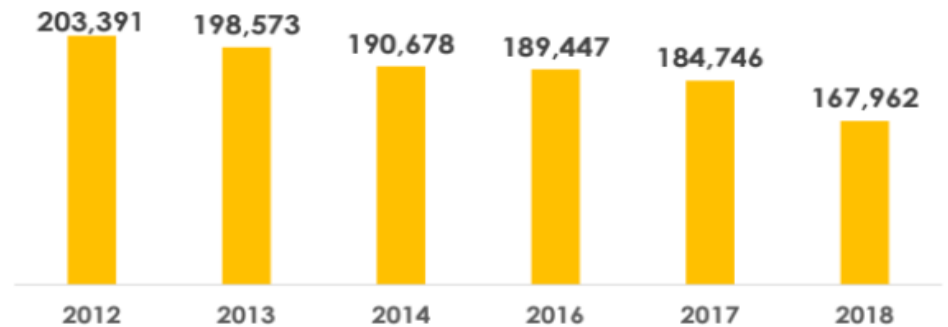
- **Malaysian Government:** STEM to transform the country into a developed nation by 2020, ensure sufficient STEM-related human capital, resources, and infrastructure. The government recognizes the need to capitalize on female participation to promote its economic and national development (Mohamed, 2011).
- Since the early 1970s, the country has increased the percentage of women in the workforce; one result is an increase of 95%, across all fields, from 2,374,300 in 1990 to 4,689,700 in 2012 (MoHR, 2012).
- **Education:** in 2015, women constituted more than 50% of students across all STEM-related courses, except engineering, in third-level education.
- **Malaysian girls** are performing well in STEM from primary schools up to university. As of 2015, the enrolment rate was 84.6% for preschool children, 98% for primary school, 92.5% for lower secondary, and 85% for upper secondary. Half of these children are girls (MoE, 2016).

Year	Membership of IEM in Malaysia							
	Fellow	Corporate Member	Graduate	Affiliate	Incorporated Member	Associate Member	Companion	Students
2018	12	869	2357	3	12	1	57	11031
2017	12	728	1925	2	10	1	50	8438
2016	12	658	1880	2	6	0	42	7932
2015	12	594	2272	2	2	1	0	6677
2014	12	589	2202	1	3	1	0	2582
2013	11	538	1611	1	2	1	0	2973
Total Women Engineers Members: 14, 342								

Source: The Institution of Engineers, Malaysia

■ STEM in Malaysia

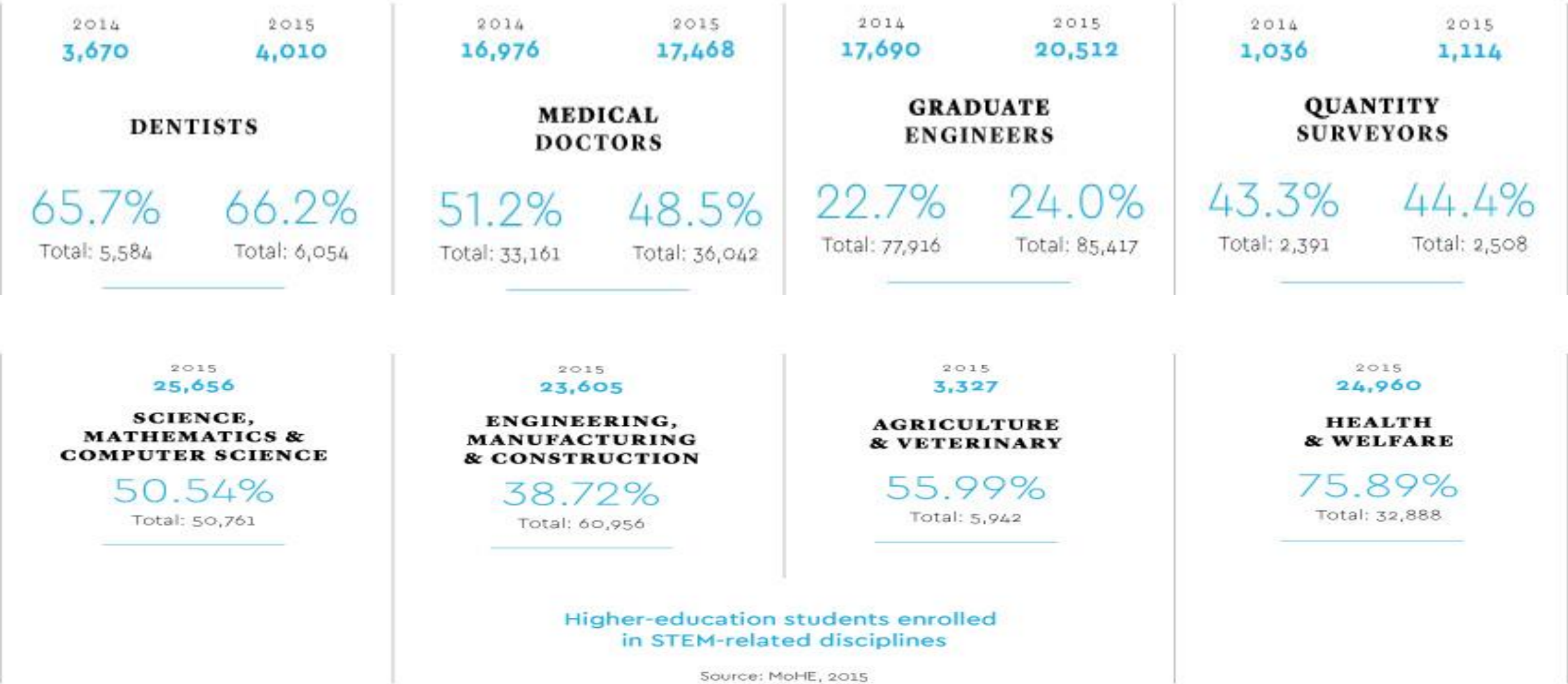
Enrolment



Student enrolment in STEM streams (Form 5) have experienced an **average drop of about 6,000 STEM students per year***.



Number of Registered Female STEM Professionals



Law/policy to support women in STEM

Girls' schools

Government established residential science schools to provide quality STEM education.

The first residential school, Malay College Kuala Kangsar (MCKK), was established in 1905.

69 fully residential science schools across the country; 6 for boys, 6 for girls, and 57 co-ed.

First residential MARA Junior Science College (MJSC) was built in 1972 by the People's Trust Council;

Now there are 51 MJSCs across the country. Over the years, residential science schools and MJSCs have succeeded in producing many outstanding STEM professionals.

Empowering female role models to inspire girls as students

Female role models are a clear motivator, as they encourage more girls to enter STEM.

National women's policy,

- ▶ Malaysia Woman Policy (MWP), established nearly 30 years ago and revised in 2009.
- ▶ It aims to develop women's human capital and to empower women to be competent, resilient, knowledgeable, visionary, creative, and innovative while demonstrating moral values.

STEM Laws

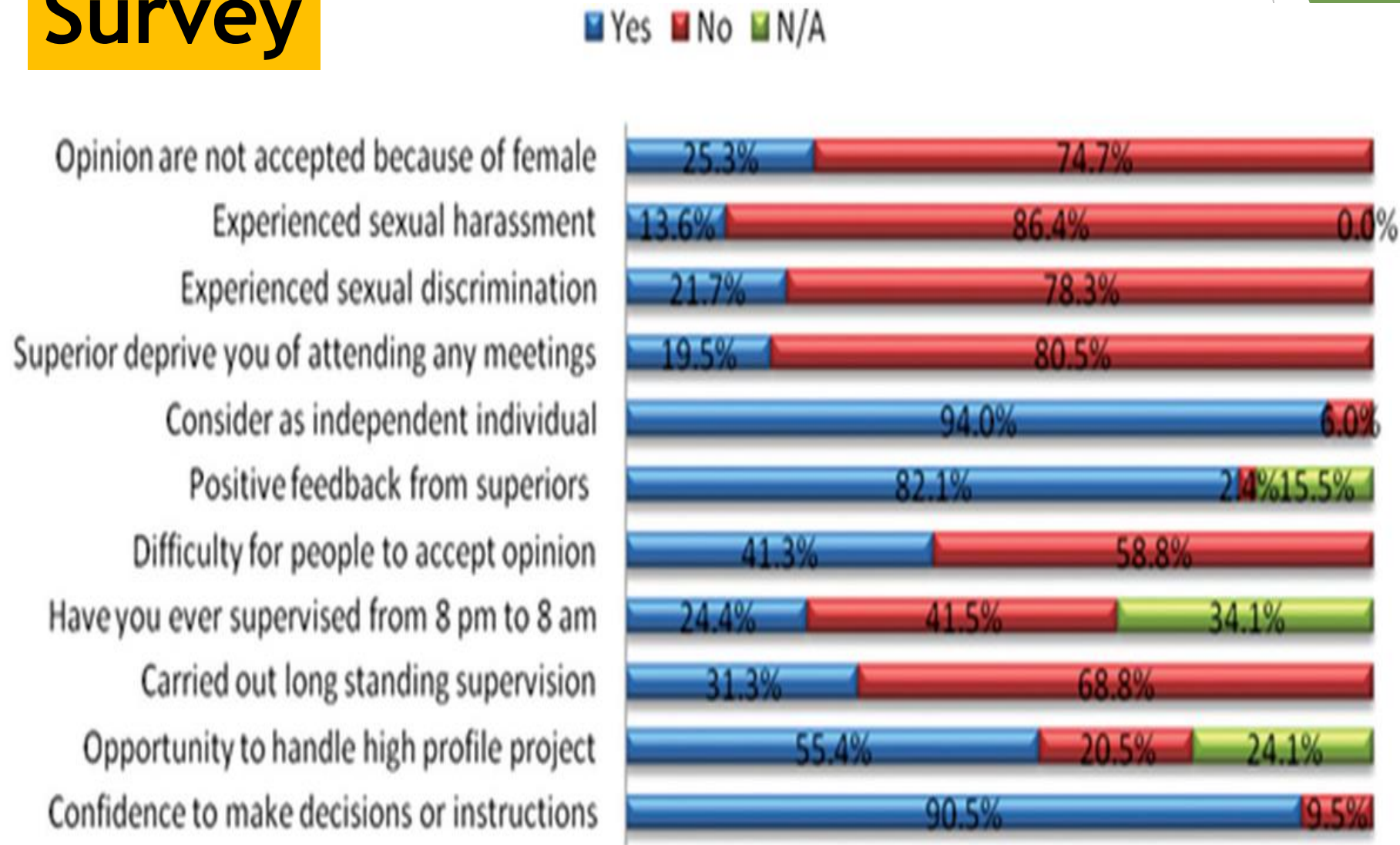
Malaysia has enacted many STEM-related laws. The most prominent are the Academy of Sciences Malaysia Act of 1994, the Chemists Act of 1975, and the Engineers Act of 1967, revised in 2007. Each act is implemented through an institution or professional body, such as the Academy of Sciences or Institute of Chemistry Malaysia, or the relevant ministry.

Gender Equality Perspective in Government Development & Policy

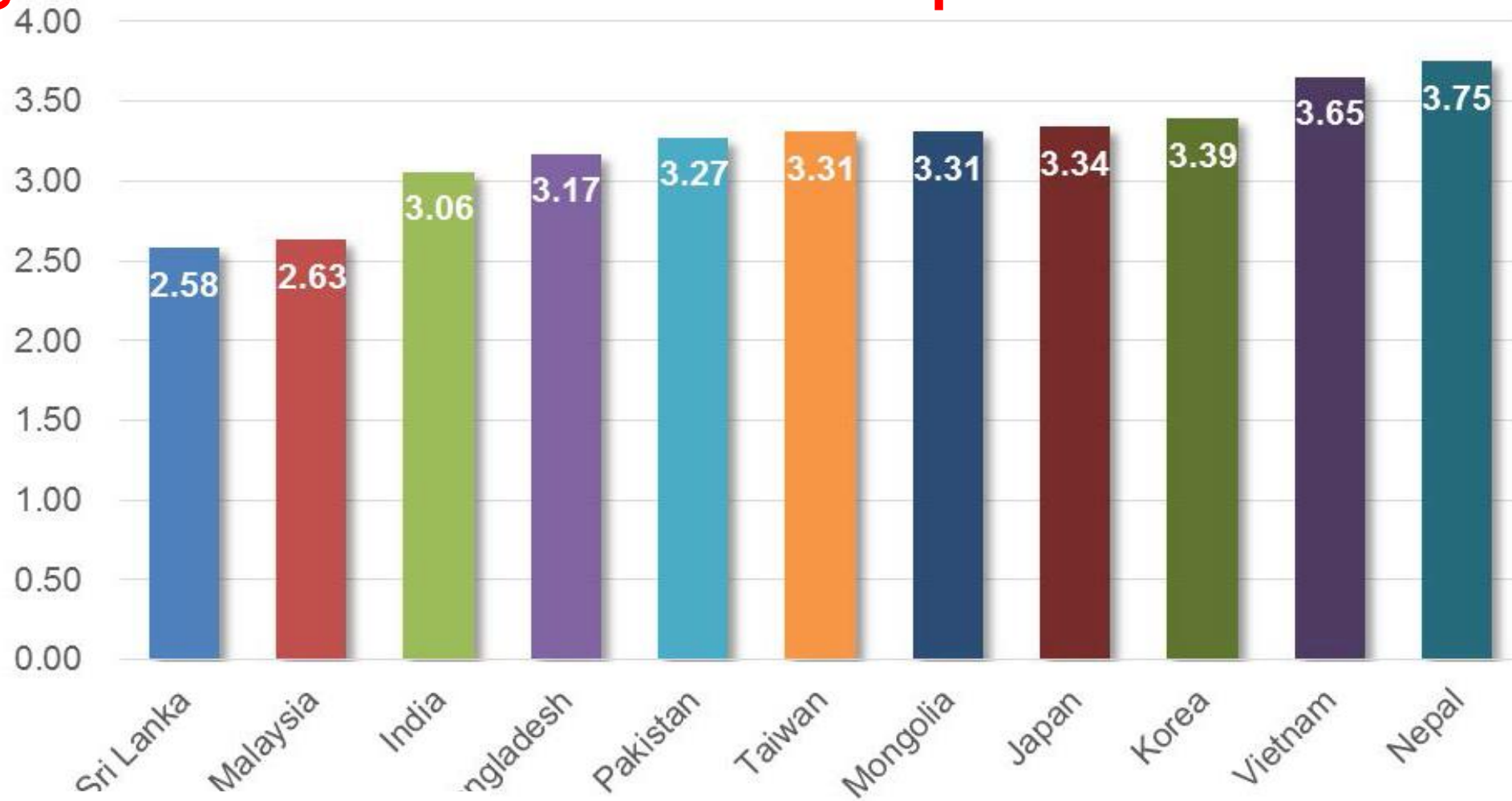


Perception of women engineers on several issues related to their jobs and working environment

Survey



Survey results on Female scientists are limited in how much they can succeed in science compared to male scientists



International Network of Women
Engineers and Scientists

Source: APNN-INWES Survey

SOUTHEAST ASIAN GENDER INEQUALITY IN WORK AND SOCIETY

	Female population 2016 (million)	Gender equality in work	Essential service and enablers of economic opportunity	Legal protection and political voice	Physical security and autonomy
Indonesia	125.6	0.52	0.88	0.37	0.82
Philippines	50.0	0.73	0.91	0.51	0.90
Vietnam	46.8	0.55	0.95	0.32	0.80
Thailand	34.3	0.66	0.92	0.18	0.74
Myanmar	27.6	0.57	0.80	0.22	0.77
Malaysia	15.5	0.51	0.88	0.19	0.89
Cambodia	7.9	0.52	0.86	0.32	0.86
Singapore	2.8	0.68	0.94	0.36	0.96

Extremely high
High
Medium
Low



Source: The cost of gender inequality | The ASEAN Post (9 September 2018)

International cooperation for women in STEM

2019 Korea-ASEAN
Women in STEM Forum



Meet our #IETywe finalists



IET AWARDS
The Institution of
Engineering and Technology

YOUNG WOMAN
ENGINEER

www.theiet.org/ywe



March 8, 2018
10am - 12pm (Registration at 9.30am)
Collaborative Learning Area, Main Library,
University of Malaya

INTERNATIONAL WOMEN'S DAY FORUM: Women in STEM

PANELISTS

KAMALA SHIRIN
LAKSHMI
(Opening Speech)
U.S. Ambassador to
Malaysia

SANGEETA MATU
(Moderator)
Strategy Management
Consultant | Scientist

DR. SITI AISYAH
ALIAS
Marine polar researcher
and lecturer

DEVIGA DORERAJA
Data Driven
Communicator and
Director, The Tenth
Floor (Malaysia)

CHEE YEN LOW
Corporate Development,
Planning and Strategy
UEM Edgewise Berhad

DR. MAHALECHUMY
ARUJANAN PHD
Executive Director,
Malaysian Biotechnology
Information Centre (MABIC)

Organized by

Resources and news on the thematic "Girls in STEM"

**Malaysia Education Blueprint
2013-2025**
[http://www.moe.gov.my/cms/
upload_files/articlefile/2013/a
rticlefile_file_003108.pdf](http://www.moe.gov.my/cms/upload_files/articlefile/2013/articlefile_file_003108.pdf) h

**Kick off meeting for the joint
IBE-Malaysia project on STEM
curricula**

Kick off meeting for the joi...
During a mission to Malaysi...
INTERNATIONAL BUREAU OF EDU...

**IBE engages in policy dialogue
to involve Cambodian girls and
women in STEM education**

IBE/Malaysia project:
"Strengthening STEM
Curricula for Girls in Africa,
Asia and the Pacific"

IBE engages in policy dialo...
This activity t...
INTERNATION...

A Complex Formula
<http://unesdoc.unesco.org/imag/0023/002315/231519e.pdf>

A Complex Formula

**Policy dialogue
foster female
STEM education**

Photo Gallery

Policy dialogue workshop t...
This activity took place beq...

**Launching ceremony a
the Deputy Prime Min
Malaysia**

Mainstreaming gender sen...

Name of the presenter and Institution representing

11/21/2019

Malaysia aims at closing the gender gap in STEM education and professions: a transformative process, with positive implications for the country's development

Policy Can Address Inequality

If all these programs work, why the growth in inequality?

- ④ Effective responses have emerged, but they are modest compared to the scope of the problem
- ④ Programs take time to have effects
 - School reforms take 3-5 years to work
 - Early child care effects emerge a decade later
- ④ Need for multiple efforts across multiple spheres
 - Family, health, neighborhood, school, workforce
- ④ Programs, policies, practice work differently in different contexts and for different individuals

Implementation, implementation, impleme...

Summary

Inequality is the Problem: What's Our Response?

Tax and benefit changes have been important
Increasing inequality and stemming further rises

Structural changes are almost certainly the key
How much control does the Government have other these?
More than you think, but less than they want
e.g. education policy, encouraging single parents into work

NGOs play very important roles.

Are inequality unachievable? Or desirable?

Policy Can Address Inequality