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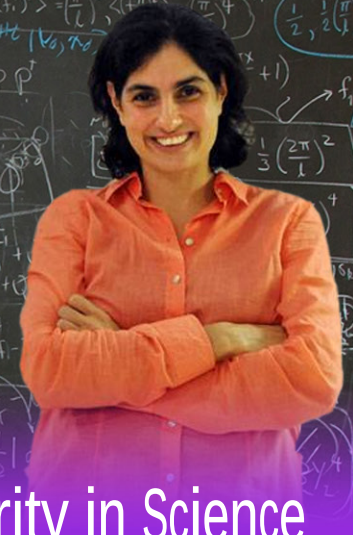

Equality and Parity in Science for Peace and Development

11th February International Day of Women and Girls in Science

International Day of Women and Girls in Science 2018

Joint-Message from Ms Audrey Azoulay, Director-General of UNESCO and Ms Phumzile Mlambo-Ngcuka, Executive Director of UN Women on the occasion of the International Day for Women and Girls in Science

Our Future will be marked by scientific and technological progress, just like our past. That future progress will be the greatest when it draws on the full talent, creativity and ideas of women and girls in science.

Most countries, industrialized or not, are far from achieving gender parity in Science, Technology, Engineering and Mathematics subjects (STEM) at every level of the education system. That deficit feeds the employment gap. According to estimates by the UNESCO Institute of Statistics, women currently represent less than 30 per cent of the research and development workforce worldwide.

The rapidly growing science and technology sectors are vital to national economies. Tackling some of the greatest challenges of the 2030 Agenda for Sustainable Development -- from improving health to combatting climate change -- will rely on harnessing all talent. That means we need to achieve a significant increase in the number of women entering and remaining in STEM careers.

One of the main tools for tackling gender inequality in the sciences is dismantling the barriers to girls and women, at home, in the classroom and in the workplace. This requires a change in attitudes and the challenging of stereotypes. We need to tackle biased perceptions amongst teachers, employers, peers and parents of the suitability of girls and young women to learn science – or learn at all – to pursue scientific careers or to lead and manage in academic spheres.

It is difficult for girls to believe in themselves as scientists, explorers, innovators, engineers and inventors when the images they see on social media, in textbooks and in advertising reflect narrow and limiting gender roles. This is why UN Women (link is external) is leading the "Un-stereotype Alliance" initiative, which encourages advertisers, tech companies and influencers to banish old-fashioned, stereotypical portrayals of gender in advertising that could diminish or limit the role of women in society. These inaccurate depictions can hinder women's careers, including as scientific innovators.

The 2017 report of the UN Secretary-General's High-Level Panel on Women's Economic Empowerment (link is external) explored the impact of these adverse social norms and highlighted the need for dialogue with children and adolescents, so that both girls and boys see themselves as equally capable from early childhood. It also looked at ways of promoting positive role models as a key driver of change to increase women's economic participation worldwide.

Strong women mentors can show women and girls the path to leadership in academia, research and business throughout their careers. This is why UNESCO, together with the L'Oréal Foundation, has been encouraging women scientists for two decades through the For Women in Science Awards designed to celebrate women's achievements. Our recently launched Manifesto "For Women in Science" (link is external) is a call to nurture women's talent, from supporting girls' education in STEM subjects to guaranteeing equal opportunities for women to fully participate and lead in the broad spectrum of high-level scientific bodies.

UN Women and UNESCO are committed to continue working through the UN system, and with all our public, private and civil society partners to ensure that girls and women are represented more equitably, and granted the full opportunities they need

Women in science

Ramla Qureshi

There is no lack of talent in Pakistan. Then why is there an immense gender gap in professional fields involving science, technology, engineering, mathematics and medicine (STEMM)? If your answer to this question is that the gender gap doesn't exist as there are many women at medical colleges in Pakistan, then you're half correct – and only painfully so.

The International Day of Women and Girls in Science is celebrated on February 11. Unfortunately, the gender parity ranking in science, technology, engineering, and mathematics (also referred to as STEM) fields for Pakistan has hit rock bottom. While it seems that there isn't much to celebrate, we can view it as a window of opportunity. Weeding out the causes of this dearth of women in STEM fields can provide an insight into what can be changed to tip the scales.

Girls are ostensibly pushed towards dolls and plastic cooking sets from an early age while boys are gifted toy cars, building blocks, board games and toy robots that stimulate their spatial and analytical faculties well before their parents send them to school. As it happens, children are attached to their toys and are believed to gain creativity as well as social skills from the games they play. A research conducted by the Association of Psychological Science in January 2015 revealed that children who frequently play with puzzles, construction sets and board games tend to have better cognitive abilities.

No conscious effort is made to cultivate interest among girls to toys that focus on math, science, and construction activities. Their lack of interest is conveniently attributed to biological factors and shrugged off. According to an American Society for Engineering Education investigation of Amazon.com datasets, physics and engineering toys were each purchased at a rate of only about 8.5 percent for girls. There is possibly some variation in the trend of buying toys based on gender stereotypes in Pakistan. The question of 'how much' is currently open to speculation. What's interesting to note here is that girls in class eight have usually outperformed boys in all subjects in Pakistan. If girls weren't inherently inclined towards technological conquests, they would have scored poorly in educational assessments.

The question that arises is: what changes after class eight? Why do girls lose interest in fields related to engineering, technology and mathematics? In Pakistan, more girls can comfortably choose to study in a medical university because these institutes already have a significant number of female students. The representation of women as doctors and pediatricians in TV serials and commercials has 'normalised' the presence of a female medical practitioner at hospitals.

But there are few relatable role models for Pakistani girls within science and tech industries, especially within the engineering sector. This does not mean that exceptional Pakistani women practitioners in STEM fields don't exist. We have merely neglected their tremendous achievements. Pakistani women have become pilots, engineers and pioneers. But how many of their trailblazing triumphs have become common knowledge?

Recently, at the Lahore Science Mela, the Women Engineers Pakistan booth received considerable attention from school-going girls and their parents. Inspired by this response, Women Engineers Pakistan is now running a month-long campaign to highlight women role models to encourage future generations of engineers, technologists, and scientists.

We have received hundreds of emails from young girls about which engineering field is the most "suitable for girls". Upon further inquiry, we often find that their elders are not sure if the chosen field will be safe for a woman to navigate. It is difficult to blame them as many of us would be just as concerned knowing what we do about workplace harassment within the tech sector. We must not forget that there are some inspirational female engineers who work on site. The only difference is that their organisations actually make direct efforts to foster a welcoming work environment for them. Organisations that take an active

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'The world needs science and science needs women': UN envoy

United Nations Secretary-General António Guterres today urged greater investments in teaching science, technology, engineering and math to all women and girls as well as equal access to these opportunities.

"For too long, discriminatory stereotypes have prevented women and girls from having equal access to education in science, technology, engineering and math (STEM)," said Mr. Guterres in his message for International Day of Women and Girls in Science, marked annually on 11 February.

"As a trained engineer and former teacher, I know that these stereotypes are flat wrong," he said, explaining that they deny women and girls the chance to realize their potential – and deprive the world of the ingenuity and innovation of half the population.

"On this International Day, I urge commitment to end bias, greater investments in STEM education for all women and girls as well as opportunities for their careers and longer-term professional advancement so that all can benefit from their ground-breaking future contributions," he said.

'Female engineers and computer programmers wanted,' is the main message of the report, which shows that women are increasingly graduating with life science degrees, but still rare in engineering and computer science, especially in developed economies.

"An analysis of computer science shows a steady decrease in female graduates since 2000 that is particularly marked in high-income countries," it states.

The share of women graduates in computer science between 2000 and 2012 slipped in Australia, New Zealand, the Republic of Korea and the United States, as well as in Latin America and the Caribbean.

"This should be a wake-up call," UNESCO said. "Female participation is falling in a field that is expanding globally as its importance for national economies grows, penetrating every aspect of daily life."

The share of women working as engineers is also higher in some developing countries, with increases observed in sub-Saharan and Arab countries. Women in the United Arab Emirates, for example, have benefited from national polities that promote training and employment of Emirati citizens, and in particular women.

In her message on the Day, UNESCO Director-General Irina Bokova called for empowering women and girls to learn and research.

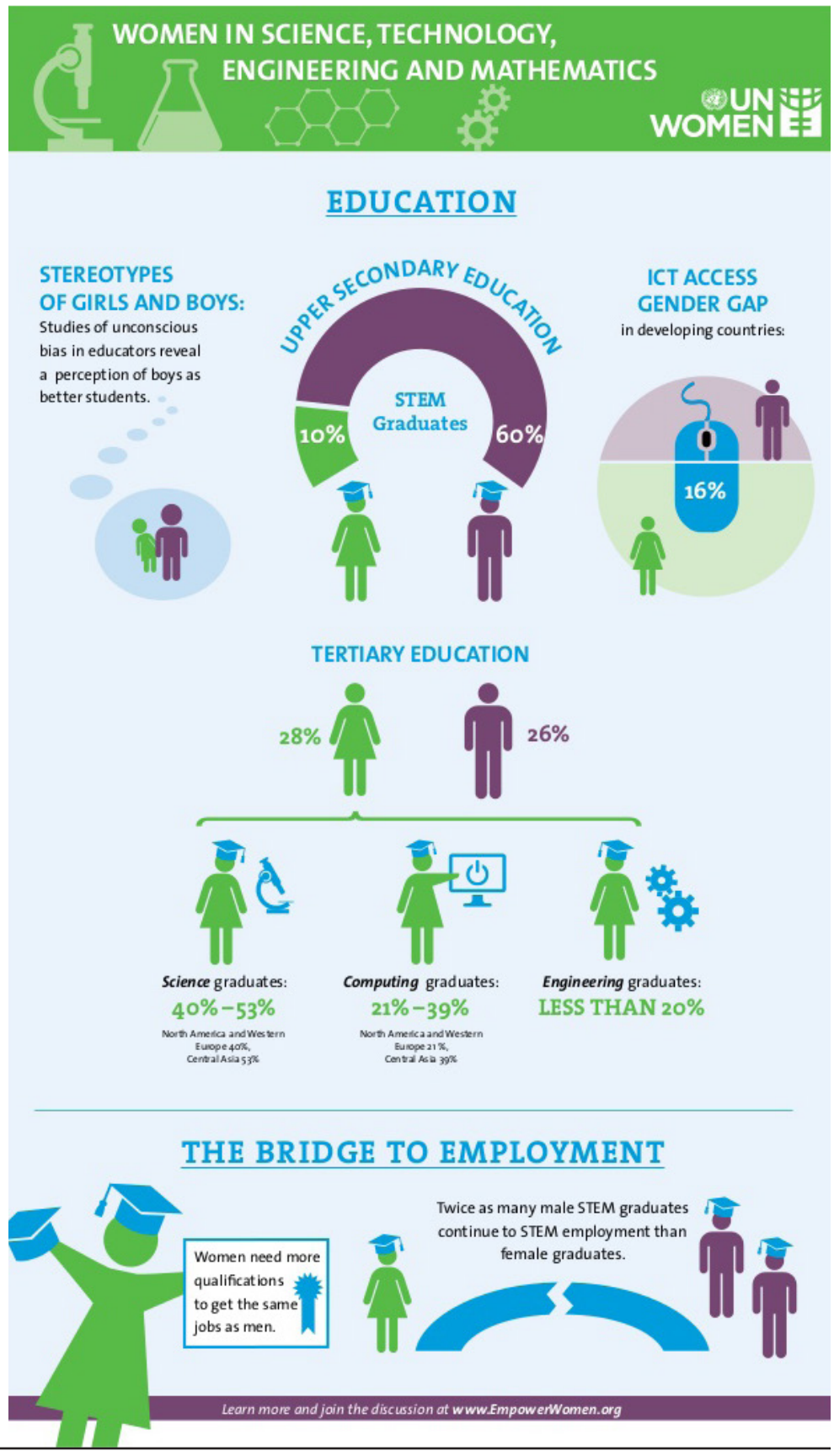
"We must raise awareness about the work of women scientists by providing equal opportunities for their participation and leadership in a broad spectrum of high-level scientific bodies and events," Ms. Bokova said, calling also for mentoring opportunities for women.

In 2016, UNESCO and the L'Oréal Foundation launched the manifesto For Women in Science, to engage governments and stakeholders in promoting the full participation of girls and women in science.

For its part, UN Women noted that science and technology offer unique opportunities for women and girls to overcome a number of the barriers they typically face. For example: mobile money has empowered and transformed the lives of millions of women previously thought to be "unbankable" by enabling them to directly access financial products and services.

Women with skills in science and technological fields can help improve vital infrastructure such as water and power supply, and in doing so ease the responsibilities that women and girls carry of providing unpaid care work for the household.

Similarly, Internet and mobile technology can help bridge barriers to education for the 32 million girls who are out of school at the primary level and the 29 million at the lower secondary level, explained the main UN entity on women's empowerment and gender equality.



From page 1: Women in science

stand to making their workplaces safer and are more accommodating have been seen to retain more women in STEM fields.

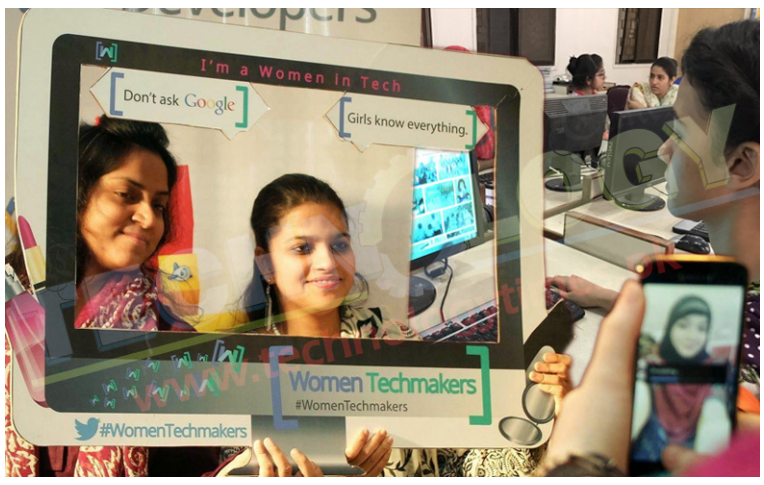
While sexual harassment laws are already in place in Pakistan, we still need to cover a lot of ground. These distressing events come in all shapes and sizes. For example, a male professor recently told me that female faculty members are seldom hired for the engineering department because they cannot stay back late and conduct outdoor sessions. Such convenient generalisations by experts reflect the implicit or unexamined biases against women.

Equal pay based on gender is not mandated by the government of Pakistan, or any law within the country. But from a bird's eye view, Pakistan is moving towards gender parity – albeit at an extremely slow rate. There are many efforts being made to highlight the gender gap and organisations are taking fresh strides to recruit and retain more skilled women.

One thing that has repeatedly surfaced is the concept of diversity. Diversity includes the many different social identities that give meaning to us and the social groups that we belong to. It reflects a headcount of who is at the table. Unfortunately in Pakistan, including a woman speaker in the panel of a tech conference or having six female employees in a company of 10,000 workers is considered to be sufficient in creating a diverse atmosphere.

What we need to focus on is the concept of inclusion. Inclusion deals with questions about the 'how'. How is an STEM organisation embracing the diversity that it has? Are the female employees provided female toilets? Is there a daycare system available for working mothers? Are female bosses attentively listened to just as much as the male ones? Are female employees of the same rank being paid a salary that is at par with their male counterparts? It is often said that "without inclusion, there's a diversity backlash". Most women opt out of these male-dominated fields because they are marginalised.

Women constitute more than 48 percent of the population. Of these, only 44.3 percent are literate. As per the Pakistan Council for Science and Technology, less than 10 percent of engineers and technologists are women.

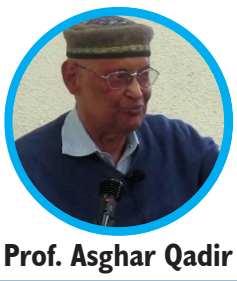


For other STEM fields, women constitute around 18 percent of manpower.

It is unfortunate that exact data doesn't exist for this disparity. But rhetoric and facts alone can't change the status quo. A great deal needs to be done to encourage more girls in science and math-related fields. This gap needs to be seen as an opportunity for the entire country to move forward. The time to act is now.

The writer is a structural and earthquake engineer, a PhD researcher and the founder and CEO of Women Engineers Pakistan.

Courtesy: thenews.com.pk



Prof. Asghar Qadir

Pakistani women in science: myth and reality

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Pakistani women in science: myth & reality

Prof. Dr. Asghar Qadir

Despite the general perception to the contrary — the reality is that women dominate men in science and mathematics in Pakistan at all levels.

In response to the article 'Women in Science' by Ramla Qureshi, GeoTech Engineer, Founder and CEO of Women Engineers Pakistan, appeared in The News International on International Day for Women & Girls in Science.

It claimed that girls are not encouraged to study science and engineering. As far as natural sciences are concerned, girls are only encouraged to study medicine (and presumably the related sciences of Biology and Chemistry). She admits that plenty of women are to be found in medical colleges but asks why girls 'lose interest in fields related to engineering technology and mathematics'. I take it that physics is included in the subjects she is talking about. I happen to have spent a very long time teaching these two subjects at various levels in universities and my impression is that this claim has been false for at least a couple of decades.

I recall a MSc Mathematics class at Quaid-i-Azam University about 15 years ago in which there were 28 women and 24 men. Any questions I asked, only the women could answer and the men were blank. Over the two years of MSc, many of the men dropped out but hardly any of the women. By the end, the number of girls was 50 percent higher than the number of boys. More strikingly the grade point average of the class differed by over one between them, in favour of the girls. Another time, I was invited for a talk with the MSc, M.Phil. and PhD students of the Mathematics Department of Punjab University. There was a most of the room where the talk was taking place was occupied by women. There were only a few men in comparison, sitting in the back rows. In fact, I pretended to shade my eyes and look around and then pointed to a male at the back and said "Oh, look! There is a man." However, impressions and anecdotal reminiscences are notoriously misleading and "one swallow does not a summer make".

Let us look at the facts. I collected the data for the top three universities of Pakistan: NUST, Quaid-i-Azam University (QAU), and Punjab University.

At NUST, there are 82 men in the BSc programme in comparison with 97 women. There are 31 men in the MS/MPhil program in comparison to 28 women. In the PhD program, there are four men and five women. At QAU, there are 121 men in the BSc. program, and 88 women. In the MSc program there are 29 men and 32 women. In the MS/MPhil program there are 94 men and 63 women. In the PhD program there are 23 men and 50 women. At Punjab University, there are 98 men in the BSc program and 51women. There are 43 men in the MSc program and 74 women. In the MS/MPhil program there are 28 men and 46 women. In the PhD program there are 21 men and 16 women.

This data does not seem to support the claim of the article. At NUST the women outnumber the men at the Undergraduate level and at QAU there are twice as many women students at the PhD level.

The following are statistics for men and women studying mathematics at these same universities. At NUST, 52 men study mathematics in the BSc program in comparison to 109 women. 25 men study mathematics in the MS/MPhil program in comparison to 36 women. 12 men study in the PhD program in comparison to 19 women. At QAU, 67 men study mathematics in the BSc program in comparison to 100 women. In the MSc program, 2,456 men study mathematics in comparison to 3,039 women. At the MS/MPhil level, 39 men study mathematics in comparison to 24 women. At Punjab University, 31 men study mathematics in the BSc program in comparison to 94 women. In the MSc program, 133 men study mathematics in comparison to 164 women. In the MS/MPhil program, 26 men study mathematics in comparison to 49 women. 10 men study mathematics at the PhD level, in comparison to 29 women.

Here the claims in Ramia Qureshi's article diverge preposterously from the research. Women are completely dominating the scene. What is happening? How can people be making claims that fly in the face of the facts? The reality is that women dominate men in science and mathematics at all levels (except for BS Physics).

To check robustness of the data, the data of NUST is given for longer periods. For 2014 (when BS Physics was started) to 2017, in Physics there were a total of 106 males and 99 females; for 2010 (when BS Mathematics was started) to 2017, in Mathematics there were a total of 110 males and 193 females. At the MS in Physics (started in 2008) till now there were a total of 89 males and 75 females; and in Mathematics (started in 2004) till now there were a total of 101 males and 164 females. In the PhD in Physics (starting 2010) to date there were 10 males and 5 females; and in Mathematics (starting 2004) 37 males and 31 females. The data is robust. The claims of the article are a myth!

But now, let us turn the page from students to University faculty. In Physics at the three universities: NUST 8 males and 2 females; QAU 14 males and 2 females; Punjab 11 males and 6 females. In Mathematics: NUST 11 males and 2 females; QAU 17 males and 1 female; Punjab 18 males and 5 females. Where have all the females gone? Are these alien abductions? Are our 'Agencies' selectively taking away women mathematicians and physicists? Is it a conspiracy?

There are no abductions, but it is a conspiracy against the highly qualified female physicists and mathematicians. Who is behind this conspiracy? Well, it is you and I and all of us, including the highly qualified women! It is what I would call a 'conspiracy of the culture'. There is a myth that is taught to all, that women can only be complete if they marry and have children. There is a social stigma for unmarried women (spinsters) that is not matched by a corresponding stigma for unmarried men (bachelors). A male should preferably get married when he has a secure job but a woman must be married. People like to quote the biological necessity for women but do not address how it is less necessary for males. At the back of it is the point that our society forbids women from having relations with men before marriage but winks at it for men. For a female it is worse than a crime — it is a sin — but for a male it is a peccadillo.

Another myth is that there is a small window for women to be 'of marriageable age', and most of it is lost if the female studies for the PhD and it closes if she does not get married immediately after the PhD. It is true that men have a longer procreative duration, but it is preferable that there be no more than one or two children in any case. The myth is the implicit unstated premise that the only role of women after marriage is to go on producing child after child after child!

Here I pointed out two myths that are doing serious damage to our society and argued that we need to dispense with these myths to correct our development in the sciences. In the next part, I will discuss the damage being done as a result of the second myth.

I had a brilliant female student who got a DAAD scholarship to do her PhD in Germany. However, her parents would not let her leave unmarried. She was 'married off' to a man who was neither brilliant nor well educated. When I saw her in Germany, she had become a mother. She used to get up in the morning and prepare breakfast for her son, husband and herself, feed her son and then go to her department.

She would then return at lunch time, prepare lunch for all of them, feed her son and then go back to the department. She would then return home and prepare dinner for all, feed her son and then retire for the night. She never performed at the PhD as she should have. Why did she have to do all this? You see, she had to be a housewife as well as a PhD student. Her husband was a total freeloader.

Why should he not have been a good 'house-husband', instead of her being a good house-wife? That is the myth of our culture. Another brilliant student was not being allowed to study for her MPhil. After her MSc. and I had to intercede with her parents to let her continue. She did brilliantly in her MPhil. and then got a 99 percentile in the GRE, leading to a full scholarship for a PhD at MIT. Her parents would not let her go.

Again, I had to intercede. This time they agreed only on condition that she got married. Fortunately, there was another student of mine who was interested in her and she was able to go abroad after marrying him. Parity demands that when the wife is the competent provider, the husband manages the home, just as when a man is the competent provider the woman manages the home. If they are both competent workers, they jointly take care of the home.

The myths I have mentioned in the previously published portion of this article are pernicious myths that we perpetuate ourselves. The purpose is to keep females out of protected male jobs. We have a closed shop for the males that will be broken if these myths are exploded. But since everybody conspires, including the very females we say are being victimised, why object?

Why not let the working system continue? The reason is that this system is not working. It worked in a society where the entire educational system participated in it. Females were restricted to 'female type studies' like Home Economics. With the changes in the studying demography of males and females, a serious distortion has arisen, which I would like to explain. (Of course, there are other fields whose demography should also be discussed, but that would take us beyond the scope of this article.)

Bear in mind that women not only dominate the scene in numbers, but even more so in grades. How come? Are women inherently more intelligent than men? Do they have a natural bent for mathematics that is missing in their counterparts with a Y-chromosome? The earlier myth that women cannot grasp the abstractions of mathematics as well as males was unbelievable, and so is the converse. It was the culture perpetuating the earlier myth and it is culture causing the new myth.

We have introduced a distortion by segregating genders. Since women are required to take care of the home, teachers in female institutions in big towns teach as well as they can at the institution (because they are competing in the jobs) and then go home and take care of the home. Teachers in male institutions, on the other hand, provide 'teasers' in the institution, so that their students will come to them at tuition centres for essential cramming that will provide high marks in major examinations. As

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Women's contributions in science are extraordinary in Pakistan

DESPITE CHALLENGES at the multiple levels, women's contributions in science and technology are extraordinary in Pakistan.

This acknowledgment was made at science lecture 'Women in Science' by Charge de' Affairs, EU Delegation to Pakistan Anne Marchal. The event was organised by Pakistan Science Foundation (PSF) in collaboration with EU Delegation to Pakistan and Ministry of Science and Technology to commemorate International Women's Day (IWD). The activity was aimed at highlighting the achievements of women scientists.

The participants were informed that women make 48.5 per cent population of the country whereas their total contribution in research is 48.3 per cent in medical and health disciplines, 45.5 per cent in Humanitarian and Arts, 42.7 per cent in Natural Sciences, 22 per cent in Engineering, and only 11 per cent in agriculture subjects. The speakers stressed the need to motivate, guide, mentor and establish mechanism to connect them with opportunities.

"Women have much potential to work in the field of science and technology," said chief guest Federal Secretary Ministry of Science and Technology Yasmin Masood. The federal secretary said that the EU Programme has helped Pakistan in joint scientific research work and called upon women scientists to get maximum benefit out of this international research funding. She said EU programmes would help in gender parity in Pakistan.

Charge de' Affairs, EU Delegation to Pakistan Anne Marchal, in her lecture, spoke at length about EU programmes in Pakistan, especially EU Programme Horizon 2020 and called upon Pakistan women scientists to send maximum joint research projects' proposals. She also highlighted the achievements of Nobel Laureate Swiss-French Scientist Madam Curie.

Executive Director, The Institute of Orange Grove Farm Dr. Amina Khan and Chairperson Biological Sciences Department, Quaid-i-Azam University Professor Dr. Bushra Mirza, in their talks highlighted the achievements of Nobel Laureates and stressed the women to take positive motivational steps including accepting challenges to achieve the goals of gender parity. They said achieving goals is an ongoing process.

Professor, Department of Bio-Chemistry, Quaid-i-Azam University Islamabad, Dr. Bushra Mirza, who is also awarded with IESCO Women Science Chair, opined that lack of support from academic institutions, networking, confidence and biased attitudes are the major hurdles in the way of women to shine in their fields.

Chairman Pakistan Science Foundation, Major (r) Qaisar Majeed Maik in his welcome address said that all science and technology organizations working under the Ministry of Science and Technology are providing equal opportunity to all qualified men and women. He said Pakistan has a growing pool of female scientists and engineers. ◆

Mardan girl makes nation proud through her genetic engineering research

HAILING FROM Dheri Lekpani area of Tehsil Katlang in Mardan, Sarah Farooq Khan is one such person who has won a won bronze and silver medal in her mentorship in the International Genetically Engineered Machine I-GEM competition's held at Boston, United States in 2016 and 2017 respectively.

23-year-old Sarah bagged the medals under her leadership at International competition of I-GEM at Boston USA competing with students from the renowned universities such as Oxford, Cambridge and all over the world which participate each year in I-GEM competition.

She has the honour to be the first Pakistani girl who has two inventions of "Inspector No coli" and "Reporter Fish" using bio sensors in synthetic biology.

Currently, she is in charge of Synthetic Biology Department of CECOS University Peshawar.

After completing her matriculation from her native village schools in Mardan she studied at Jinnah Girls College Peshawar from where she completed her FSc.

She was appointed as I-GEM team member when she was studying her 8th semester in Bio Technology at the University of Peshawar. She got second position throughout Pakistan for the I-GEM membership after joining I-GEM her field of study is Synthetic Biology. ◆

International Day of Women and Girls in Science celebrated

THE ACHIEVEMENTS of woman and girls in science were celebrated by a STEMinists of Pakistan an event held here to commemorate the United Nation's International Day of Women and Girls in Science.

This event brought together women involved in science, technology, engineering and maths (STEM) fields to explore their experiences and the barriers they have faced, a news release said. Participants of discussion encourage more young girls to pursue STEM subjects and to increase gender equality in science fields.

STEM subjects are traditionally male-dominated fields internationally as well as in Pakistan. According to data, women account for over 50 per cent of STEM graduates in only three countries worldwide.

In Pakistan, as few as one in four women are enrolled in STEM courses compared to over half of men. This hampers the diversity of voices, research and depth of knowledge within these fields.

Gender equality is a core part of the British Council's work. Creating greater access to education opportunities for women through scholarships and school retention

programmes, the British Council gives platforms to women and young girls through events and festivals. Last year, the British Council released a report on understanding female participation in STEM subjects in Pakistan, the first in a series of think pieces on Women and Science. Both the UK and Pakistan are committed to improving enrolment of girls in science subjects in education: from primary to tertiary education and beyond. ◆

From page 2: Pakistani women in science: myth & reality

such, girls are taught by explanation and the men by rote.

This culture further encourages ma young men to go loafing, failing which they will be called nerds, mama's boys, uncle, and so on. There is enormous peer pressure on men to avoid appearing to study. As such, the vicious circle is complete. Young men and boys will only learn at the tuition centres. On the other hand, girls and women go straight home from school and help their mother with the household work and study. Given the choice, they prefer to use the study to get away from the chores. Again, the vicious circle is complete.

If the girls go loafing they are 'fast' and 'forward'; if the boys study they are sissies and 'namby-pambies'. Thus, during schooling, girls are developed far ahead of their male counterparts and dominate the academic scene all the way. Then they are siphoned off to be married and later incarcerated in female institutions. Consequently, the crème de la crème is removed from the job market at the universities and the system of hiring incompetents there is perpetuated. The effect is seen in the data above.

As mentioned above, the demography in other subjects should also be studied. There are prevailing perceptions, but they may be as misleading as the myths I have discussed. It is said that the Humanities and the Arts have more female students and faculty. However, my impression is that in History and Philosophy, the faculty is dominated by men.

It could well be that the Arts and Literature are viewed in the same way as Home Economics is viewed and Humanities are male dominated. Again, the common perception is that the best male students go into Business and Engineering and that could be part of the cause of the distortion. Without the data, the common perceptions may be misleading.

We cannot afford this downward spiral produced by segregation of men and women and meant to create a protected job market for incompetent men. We cannot afford the myths of the article on Females in Science that I referred to in Part I, which further compound the distortion in development.

If effective, it will lead to more or the most competent females coming into these fields and then all the efforts of the teachers taken off and dumped into female institutions. We cannot afford the cultural myth of a male-female asymmetry in going for jobs or getting married. Why is Pakistan going backwards academically? Because we have created a distortion of our society as a result of the illogical gender roles encouraged by our culture.

Something must be changed. Either we revert to the old ways of keeping women away from natural sciences and mathematics so that we do not produce incompetent males and waste our time on competent but non-productive females; or we revert to the pre-Ziaul Haq era of reducing segregation of men and women in education so that they are taught equally well (or badly taught); or we move with the times and give up these redundant gender roles.

The writer is a Professor Emeritus at the Physics Department of the School of Natural Sciences of the National University of Science and Technology, Islamabad.

Courtesy: dailytimes.com.pk