

## IRAQI WOMEN AND SCIENCE: PAST, PRESENT AND FUTURE

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Some people would think that in 2016 women had it all, that they have conquered all obstacles; they may, also, think that the issue of gender is no longer a serious problem the way it used to be during the 1960s. While this can be considered a fact for some developed countries and in relation to some careers; however, women are still struggling against patriarchal cultures all over most of the world. One of the careers that are still formidable to women is working in science. Unfortunately, when it comes to women having career in science, developed and developing countries stand on the same level. One simple check of the prestigious Nobel Prize winners since its establishment in 1901 will show that among the 49 female recipients of prize, only 17 of them won the prize for scientific contributions. Among these, 14 female winners shared the prize with male colleagues. Also 12 of these prizes were in the field of medicine or physiology, while only 2 in physics and 4 in chemistry. Nevertheless, it is worth mentioning that these small numbers of female Nobel Laureates doesn't mean equally small number of female scientists worldwide, but it indicates that only few women can dedicate their lives to scientific research and come up with recognized contributions.

Many of the advanced countries in technology and science have paid attention to these facts, and started to establish strategies and public policies to encourage girls to take career in science, technology, engineering and mathematics (STEM). Many universities offer fully and partially funded scholarships to females who wish to study science; organizations set awards and fellowships for

scientific contributions made by female scientists. In schools, girls and boys study science on equal basis, and no gender discrimination is practiced in planning the curriculum taught.

However, the situation is totally different in the Arab world, especially in Iraq. The absence of Arab or Iraqi women from prestigious awards in science needs investigation and inquiry into the factors that challenge developing a female scientist in the Arab world or in Iraq. It is noteworthy here that most of the "Arab" women who became outstanding scientists managed to achieve this excellence outside their countries of origin rather than within the tent of the Arab world!

Such observation brings into question the dominant culture as well as the public policy in schools and educational institutions in the Arab world or Iraq. In 2013, Nature Middle East: Emerging Science in the Arab World made the observation that in Qatar, Kuwait and United Arab Emirates, two thirds of university science students are female, and in Morocco the number goes up to 70% of university science students! Nevertheless, the journal asserts, when it comes to research workforce, women compromise 12% only! Such numbers are shocking considering the fact that in most of the Arab countries, female scientists are paid as much as their male peers, unlike the situation in the so-called developed countries where women are paid thousands of dollars less than their male colleagues.

In Iraq, the situation is not that different, but it can be worse because of all the hardships and wars that

the Iraqis suffered since 1980 which left almost half of the females in Iraq partially or fully illiterate (UNESCO 2004). Such a percentage would not sound shocking considering the deteriorated security conditions in the country which forced girls to drop out of school. Also, it seems that the government doesn't follow supportive public policy that can provide for the needs of young females who are forced to abandon their education for security reasons (if the school far away from their homes) and the low family income. Under such hardships, females would be spared from attending schools and probably forced into inconvenient marriages at early age.

In the small number of schools for female students in Iraq, there is absence of supportive policies that encourage girls toward science. No equipped scientific labs and no field trips to scientific institutions or even hosting role models that inspire girls towards adopting career in science. In addition, the public policy of education in Iraq supports gender discrimination in school curriculum where girls study a subject called "family education" while exempt boys from this class asserting gender discrimination and asserting cultural premises that support women's limited role inside the house!

However, and in spite of all the cultural and physical obstacles, increasing number of girls join scientific studies in their undergraduate and postgraduate studies. It is actually impressive to find the number of females joining postgraduate programs in order to gain M.Sc and PhD in sciences and follow advanced research in different scientific fields. Yet, looking deep into the matter doesn't give the same bright first impression. Most of these female scientists, with postgraduate degrees, settle for academic career which is basically "teaching science", rather than being part of actual scientific research, or they choose office jobs, when employed in the few scientific research centers exist in the country.

This phenomenon of lacking female contribution in the scientific research in Iraq can be attributed, first, to the country culture which pushes women toward socially convenient jobs like teaching with limited working hours regardless of the limited creativity of that job. Second, the lack of well-equipped scientific research centers that can train and make use of graduate female students and accommodate them into the workforce while most of the males are in the front fighting different kinds of enemies.

## Conclusion:

With all the wars and deterioration of individual and family health, the country needs now to create pool of scientists and research centers to work on finding solutions for the increasing health problems, environmental issues as well as engineering skills benefiting from the workforce that graduate every year from the increasing universities and colleges. This can save the country millions of dollars spent every year on importing solutions for its increased problems. Such research centers and public funding policies are considered good investments for the country's future, and they are exactly the kind of investments that developed countries have followed to be as advanced as they are now.

## References

1. The Nobel Laureates have only one Arab woman, Tawakkol Karman from Yemen who won Nobel for Peace in 2011. See: [http://www.nobelprize.org/nobel\\_prizes/lists/women.html](http://www.nobelprize.org/nobel_prizes/lists/women.html)
2. See :<http://www.natureasia.com/en/nmiddleeast/article/10.1038/nmiddleeast.2013.67>
3. <http://www.independent.co.uk/news/science/female-scientists-paid-5000-less-a-year-than-their-male-counterparts-report-finds-10351212.html>
4. The independent sociologist Dr. Yasmin Jawad mentioned in her presentation that almost 47% of females in Iraq are either partially or fully illiterate after 2003. See : [http://www.gicj.org/iraq\\_conference\\_speeches/Dr\\_Yasmin\\_Jawad\\_Presentation.pdf](http://www.gicj.org/iraq_conference_speeches/Dr_Yasmin_Jawad_Presentation.pdf)
5. In the Genetic Engineering and Biotechnology for Postgraduate Studies, University of Baghdad, there are nine registered patents; none of them belonged to female scientist! See <http://www.ige.uobaghdad.edu.iq/PageViewer.aspx?id=125>