Gender & technology: the question of identity

By Mohammad Anwar

WHY IS IT important for women to enter the field of science or to learn its way? I would cite two reasons for engaging in this enterprise. First, it is a question of self-worth. For years patriarchal systems have ensured that women place little or no value on the knowledge they themselves possess. It is a fact that women possess and use science in their daily lives, this is not given the rarefied definition of 'scientific knowledge'; rather society diminishes its value by dismissing it as common sense. Recognizing the possibility of women knowing, albeit in ways different from men, can enhance self-worth, and that is the first step towards liberation. Second, it is only when the enigma surrounding science is broken that women can see science for what it is, the politics that give it direction and determine its technological applications. This, of course will have profound implications for the future of humanity itself.

For women in adult education classes, science is esoteric. They believe it has nothing to do with them: the stereotypical image of the scientist persists, a man, eccentric, absent minded, and interestingly, asocial. Conversely, scientists would perhaps not accept the knowledge these women possess as science because it is learnt through experience at home, and their experimental descriptions of giving birth or the change of seasons are not couched in the sterile language of science.

It is really the abstract and complex nature of mathematics or physics that drives girls away, or whether it is the gender attribution of success/ failure in these areas, particularly in mixed schools, that makes girls shy way from competing. In today's world, technology is the key to economic development. And education is the engine of technology; it is one of the requisites for socio-economic change. Sadly, women remain lost in the cobweb of deprivation, marginalization and denial, not only of their rights for self-improvement but also of their roles as agents of change.

The worst form of the most well-organized global violence committed against women of all ages, levels and backgrounds is controlling and limiting their access to learning, knowledge and information. It is still commonly believed that education can make girls 'too independent', a factor which can upset the age old norms of patriarchy. Negative attitude towards women and girls in the region of South

> The revolution of IT has brought a fundamental change in the nature of science theories and its component of gender. Yet, in our society this field is restricted to men only. Most women Internet users do not represent women in the country as a whole, but are rather part of a small, urban educated elite

Asia, through the centuries, is the root cause of massive female illiteracy and de-powerment of women.

Feminists from the beginning have realized that science and new technology have marginalized women as workers and that science gives little attention to women's concerns. Inevitability all of these issues inhibit the full progress of science itself.

In most developing countries, there are serious obstacles to girls and women receiving science and technology education and in pursuing scientific and technical careers. Similar obstacles also exist for women in developed countries, particularly with regard to advanced sciences and technology training and education.

Education is gaining knowledge, broadening one's mind and learning more about one's immediate surroundings and the larger society. Society often limits knowledge for women to a narrow confine. Such constraints are obstacles to women broadening their horizons. Yet, in our society men in general feel that girls should not get any form of scientific education, like computer, because if she does she will gain a sense of freedom, which is dangerous. What they don't realise is that more education means better income earning opportunities, more power and enhanced status in family relationships, all of which add to the options of girls' future productive and reproductive lives.

The revolution of information technology has brought a fundamental change in the nature of science theories and its component of gender. Yet in our society the field of computer science is restricted to men, which is also reflected from the views given to me by a professor of a well-known university that "the field of computer science has been made for men by men. There is no place for women, if they want to enter in this field they have to work hard." The another factor which prevents them is our social norms which suggest that science and technology is only for men, not for women. They should study arts or home economics.

According to an analytical study by the Academy of Educational Development, on Gender, 'Information Technology and Developing Countries', getting reliable statistics on women's Internet use in developing countries is very difficult. The standard indicators are not disaggregated by sex, and the available data are not very reliable or comparable. However, it is clear that the numbers are small and the distribution limited. Most women Internet users in almost all developing countries are not representative of women in the country as a whole, but rather are part of a small, urban educated elite. In many developing countries, less than one per cent of the population, male or female, has Internet access. By regions, women are 22 per cent of all Internet users in Asia, 38 per cent of those in Latin America, and six per cent of Middle Eastern users. No regional figures by sex are available for Africa.

It also highlights that a series of factors, including literacy and education, language, time, cost, geographical location of facilities, social and cultural norms, and women's computer and information search and dissemination skills constrain women's access to information technology. Science and technology education is necessary for women to work in IT at the level of computer programmers, engineers, systems analysts and designers. Women's low enrolment in science impedes this globally.

In developing countries, there is a great deal of variation in the percentages of women in natural sciences, computer science, and engineering. There are indications that young women in developing countries are not as affected as US women by attitudes that computer science is not an attractive field to enter. For example, women comprise between 30 and 50 per cent of students in computer science and other natural sciences in a number of developing countries. Africa remains the area of greatest concern, however, as African women have the lowest participation rates in the world in science and technology education at all levels. ∎