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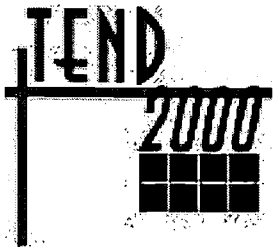
ABSTRACT

Technological education is more effective than general education in improving social mobility. Remarkable gender disparities currently exist in overall enrollment in secondary and higher education in the Arab states. Encouraging more Arab women to enroll in technological education would lead to higher percentages of women in higher-paying jobs, with the attendant consequences of enhanced social status, security, and mobility. Because technological education is essentially devoid of social and cultural conditions, it weakens gender differentiation of roles. The 1979 Conference on Science and Technology for Development adopted a resolution on women, science, and technology that called on member states to facilitate the following changes: (1) equal distribution of the benefits of scientific and technological development and its applications in society; (2) participation of women in the decision-making process related to science and technology; and (3) equal access for women and men to scientific and technological training and to the respective professional careers. Especially in Arab countries, which have been witnessing a faster pace of urbanization and use of technology than elsewhere, technological education promises to give women a more pronounced presence in their countries' changing economic and social structures, thereby helping to change the patriarchal system that has hindered Arab women's mobility. (MN)



Crossroads of the New Millennium

Technological Education For Women As A Tool Of Upward Social Mobility, With Reference To The Middle East

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Abstract

Education, including technological education, for women is widely recognised as a vehicle for upward social mobility. As pay tends to be higher for jobs in the technological field, technological education would lead to a higher percentage of women occupying higher-paying jobs, leading to enhanced social mobility.

Because of sexually differentiated role distribution, the roles of women tend to comprise a larger component of what are referred to in the paper as the roles of "reception, following and consumption," which suggest passivity. Technological education, which increases influence, would be bound to make women more active and involved members of society.

Influence is more associated with technological use, industrialisation and urbanisation. Thus, technological education and employment are bound to enhance women's mobility.

Technological Education for Women as a Tool of Upward Social Mobility, with Reference to the Middle East

The interaction of science and technology with society will have a far-reaching say in determining the future of the peoples of the Middle East. Specifically, the study of science and technology is an important factor for the improvement of women's status in Arab society.

The focus of this paper is on the role of technological education in upward social mobility. Ways in which education brings about such mobility are addressed, followed by an attempt to point to the special effects of technological education.

TECHNOLOGICAL EDUCATION AS A VEHICLE OF UPWARD SOCIAL MOBILITY

Education, including technological education, for women is widely recognised as a vehicle of social mobility (used here in the sense of upward mobility). Through education, women would circumvent the effects of factors which retard their mobility. Technological education is more effective than general education in neutralising the retarding effects of certain social institutions in the domain of social mobility. For example, it is more objective than education in the social sciences and humanities. Essentially it is devoid of social and cultural conditions. Obviously, non-professional, extraneous factors such as friendships, nepotism, bribery and other social factors may also play their role in the choice of a person to fill such a vacancy in technology. Thus, the one chosen may not be the most qualified to perform the job. In spite of that, with the increasing recognition of the importance of technology for development and given the greater spread of technological education and of social democratisation in Arab society, with more consideration being given to fairness and equality, the trend in hiring is one where women with such education will claim a significant share.

Education of women is one of the most effective ways to improve women's conditions, an urgent priority in many parts of the world. Through education, women would improve their self-image and discover much of their potential. They would improve their understanding of the nature of politics, learn about their lives, society and state; they would become more aware of their rights, whether human, legal, economic, political or otherwise, and of the need to improve and expand them; and they would become more articulate in voicing their positions and grievances. Education would encourage them to engage in public and political affairs and to become more involved in matters that concern society as a whole. They would be more able to make their voice heard and taken account of.

Education would contribute to a better knowledge by women of the prejudices, stereotypes and other negative habits and customs that account for the inferior conditions of women.

EDUCATION, EMPLOYMENT AND INCOME

Discussion of the specific effect of technological education of women on their social mobility must take into consideration the prevailing social and cultural conditions and values, including the forces responsible for the subordinate position that women continue to occupy. At the present time, there are remarkable gender disparities in secondary-level and higher education in terms of overall enrollment. Women make up a smaller percentage of enrollment and the level of education of women is relatively low. There is a high percentage of illiteracy among women, the figure varying from country to country. The percentage of female holders of high-school and college degrees is much smaller than that of male holders of such degrees.

College education exhibits gender inequality not only in terms of overall enrollment but also in the nature of the fields of education. Whereas there has been a much higher percentage of women students in traditionally female-dominated fields of education, the percentage is much lower in traditionally male-dominated fields, such as engineering, computer science and natural sciences. There may be a sort of alienation of women from science and technology. The majority of women in higher-education institutions are concentrated in the humanities and social sciences. In vocational schools, women tend to concentrate on "feminine" non-science-based occupations, such as the arts, teaching, sewing, handicrafts and nursing. Jobs in certain sectors of the economy go hand in hand with a higher level of education and with particular fields of education. The lower level or complete lack of women's education and their tendency to choose traditionally female-dominated fields of learning have contributed significantly in reducing job opportunities available to them in both the public and private sectors. These same reasons have also held back the number of qualified women in higher-paid technical jobs. As pay tends, in important sectors of the economy, to be higher for jobs in the technological field, this difference in the nature of fields of education has resulted in women having lower incomes. Furthermore, the lack of even low-paid job opportunities has accounted for the large number of women living in poverty, and thus deprived of social mobility. Technological education would lead to a higher percentage of women occupying higher-paying jobs, with the attendant consequences of enhanced social status, security and mobility.

Technology, with its expanding application and constant development, is reducing the heavy reliance on manual labour. With the increase of technology-based employment, some manual workers are displaced. As more men than women, relatively and absolutely, have technological education and employment, they would be relatively less affected, in case of displacement, than women. For women to be less vulnerable to the shift from a labour-based to a technology-based economy, they would need technological education.

TECHNOLOGICAL EDUCATION WEAKENS GENDER DIFFERENTIATION OF ROLES

Much of human society is sexually differentiated. This differentiation is easy to recognise, for it is exhibited in the roles of men and women, in their self-perception and in the way they relate to the world. Forms of sex-differentiation are not inevitable; they are alterable. A primary factor which contributes to disparities between males and females in the nature of fields of education and in the percentage of both gender groups in these fields at the college level in the Middle East (and this is true of the rest of the developing countries and, in varying degrees, even the whole world) is the social and cultural perceptions and expectations of role distribution and assignment to members of each gender. These perceptions and expectations, which are derived from various sources, are combinations of objective and subjective elements. One example is the social perception - perhaps enhanced by educational policies and practices - of women as biological reproducers and producers of a future workforce. This works in the direction of deepening the subordination of women and narrowing the range of functions they perform by influencing their ability to control their life opportunities at home and in society as a whole. As women are biologically capable of adequately functioning in a number of fields which have been dominated by men, this role assignment reflects cultural prejudices, stereotypes and wrong attitudes towards them. Thus, women are channeled to fill jobs with lesser pay, contributing to their economic weakness and hampering their social mobility. This unhealthy state of affairs could be partially corrected by women's technological education, which would increase job opportunities with higher pay in the so-far male-dominated fields of education and employment. Moreover, the structure of the college curriculum has a strong say in deciding students' performance. The curriculum feeds societal perceptions of women's roles in the family and society through gender-role stereotypes in textbooks. Social and cultural perceptions of the division of labour and expected gender roles leave their impact on patterns of gender disparity in educational processes and its results.(1)

Perceptions and expectations of role distribution and assignment have been an important factor in the concentration in certain fields of education and employment both for women and men, including paucity of women with technological education and profession. These role perceptions and expectations resulted in the emergence of a dependent-independent relation between members of the two sexes. This relation has its implication for many aspects of women's life and experience: attitudes, ambitions, mobility and others.

The 1979 Conference on Science and Technology for Development adopted a resolution on "Women, science and technology," which called on member states to facilitate:

a) The equal distribution of the benefits of scientific and technological development and its applications to men and women in society;
b) The participation of women in the decision-making process related to science and technology, including planning and setting priorities for research and development and in the choice, acquisition, adaptation, innovation, and application of science and technology for development;
c) The equal access for women and men to scientific and technological training and to the respective professional careers."(2)

If the national objective is to bring about upward social mobility, then more women should be trained in non-traditional fields. In 1980, a UNESCO report on vocational and technical education for women arrived at a similar conclusion. The report said that men were accorded an automatic priority in educational planning, in particular in the third world.(3) Ways need to be found to encourage women to enter and perform well in non-traditional disciplines. This matter is recognised in the Platform for Action adopted at the United Nations Fourth World Conference on Women (Beijing 1995), which touched upon the need to improve women's access to vocational training, particularly in the fields of technology and science. The Platform further notes that women and girls are concentrated in a limited number of disciplines, and that governments should take action to ensure a better access by women to and participation in technology at the college level. Such action may include a supportive training environment and development of appropriate curricula and teaching materials.(4) To achieve this improvement, women should be provided by governmental and non-governmental agencies with information about the availability and benefits of technological education and of diversification of vocational training.(5)

As social, economic and industrial development and modernisation have increased the need for technological education, the low participation of women in technology and their concentration on "feminine" subjects and occupations at the college level adversely affect their employment opportunities and their prospects for social mobility. The inadequate preparation of women for technology and their career pattern of heavy dependence on non-science-based occupations limit their access to the labour market and restrict their chances of entering a wider range of occupations.

Technology is increasingly becoming a resource in economic and social development. It is becoming instrumental in overcoming certain developmental difficulties. In some contexts, perhaps nothing would "move" without the technological factor being present. People with knowledge of technology, then, are people who are needed by the state and society and, consequently, who are mobile socially.

RECEPTION AND INITIATIVE

In various walks of life, including government, administration, teaching and technology, in all societies, and in particular third world countries, including the Arab countries, the roles of women tend to comprise a larger component of functions which could be described as reception, following and consumption (not necessarily in the material sense), whereas the roles of men tend to be those of involvement, in the sense of serving as a source of value originators and value producers, as pace setters, initiators and directors. This seems to be the dominant picture, even though sometimes intra-role and inter-role interactions take place across the social board.

Reception, following and consumption suggest, in a sense, passivity. To be passive in these fields suggests lack of the ability to influence; it suggests that those playing such roles are the "objects" of the activities of those who play the role of the creators. In this state of affairs, where men are the dominant, the followed and the originators, and women are the passive followers, consumers and recipients, social mobility for women is very much affected. Thus, women can exercise little influence: they are too weak to promote their interests, and defer to men. Whatever influence they possess is largely confined to the home. Human society is a political society, in the sense that in every situation there is the use of influence to achieve certain objectives. In this context, men tend to be the influencers and women tend to be the influencees.

A considerable portion of employment opportunities depends on technology- and science-related qualifications. Technological education forms the basis for a much broader range of employment in various commercial and industrial processes. It creates a greater sense of confidence to live in the modern world. Women need this confidence to claim their rightful share of society's assets. With technological education, women's influence is bound to be enhanced as a higher percentage of women would be employed in the technological field. Women's role as mere recipients would thereby be weakened and their role as active, involved practitioners would be enhanced. With this employment they would become directors and influencers rather than recipients and consumers.

With the constant and tremendous advance in technology and science and with the increasing relevance of technology and science for national planning and development, the dependence of employment availability on technological education is increasing. With this employment comes social mobility. Because of its specialised nature, technological education has a considerable influence in shaping one's attitudes. It helps develop attitudes based on more distinct, differentiated and specialised concepts drawn from the domain of technology. This enables women to better articulate their ideas and positions professionally and socially, thus enabling them to be more effective in playing their many roles in the interrelated settings of the state, society, family and workplace.

TECHNOLOGICAL EDUCATION, INDUSTRIALISATION AND URBANISATION

The developing world, including the Arab countries, has been witnessing a faster pace of urbanisation and of use of technology. Industrialisation and technological use seem, for several reasons, to coexist or to be associated with urbanisation. Influence, be it economic, cultural or social, has been associated with such trends. Technological, more than non-technological, education is more relevant for such trends; it has more of a common ground with them; it is more instrumental, objectively speaking, in exercising influence in this context. Technological education for women would thus be bound to make their presence in the changing economic and social structure and dynamics more pronounced and more functional in the socio-economic system.

In developing, industrialising and modernising societies, technological education gives more opportunities to market one's skills.(6) This enhanced marketability, which is translated into increased income and professional functionality, is contributing to social mobility of women in the Middle East.

TECHNOLOGICAL EDUCATION AND ENTRY TO THE PUBLIC DOMAIN

Gender inequality occurs in various social "locations" or units of social organisation, such as the community (public sphere) and the household (private or domestic sphere). For various historical, social and cultural reasons, women are more associated with the "domestic" rather than the "public" sphere of social life.(7) This domestic-public dichotomy is derived from a number of factors, one of the more important of which is the role of women as the mothers and nurturers of children. "Domestic," according to some sources, was defined as "those institutions and activities organised around one or more mothers and their children," and "public" as "those activities, institutions, and forms of association that link, rank, organise, or subsume particular mother-child groups."(8) This shows that the categories of domestic and public were seen as linked in a hierarchical relationship in which the public is more important than the domestic. Jobs requiring technological education are more likely to be associated with the public domain. Thus, women's technological education and employment would mean their increased employment in the public sphere, where their voice would be better heard on matters of social, economic and political organisation and management.

As technological education leads to technological employment, which is a source of better income and helps move employees from the domestic to the public sphere, and thus enhance their influence, then women with this education would achieve greater social mobility. Technological education is objective. Merit for those with this education is based on objective, achievement-based criteria. Because of that, in employment it is not subjective role perceptions and expectations which determine women's functionality and employability, but the objective element inherent in technological education. This would be an effective way to remove or weaken the effect of such role perceptions and expectations.

PATRIARCHAL SYSTEM AND ITS EFFECT ON MOBILITY

A patriarchal system has greatly contributed to the prevention of women's - and, though to a lesser extent, men's - mobility. The main features of patriarchy are control by the father of the behavior of children. This involves full authority, based on tradition, of the father; the downward direction of instructions and commands, with no possibility of dialogue; and full compliance by children. These privileges are ascribed to the father by virtue of tradition, where subjective factors such as age, wisdom and masculinity make up a major component. In assigning to a family member only a role of recipient, follower and compliant implementer, the patriarchal system limits women's mobility.

Occupants of jobs which require technological education enjoy an important and recognised status not by the consent of the patriarch, but independent of him. As women achieve income growth, functionality as occupants of jobs which require technological education, and status promotion which comes with technological employment, without reference or relevance to the patriarchal rules, then the patriarchal system is weakened; it loses its grip on human mobility.

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