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TECHNOLOGY AND WOMEN: STRATEGIES BETWEEN LOCAL ACTUALITY AND GLOBAL VIRTUALITY

by

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Introduction

The subject of Technology and gender is very recent in Third World Feminist literature, and in general the debate on globalization has just started to include “the effects on marginalized groups, ethnic minorities and the experiences of women, as well as the specificities of major creeds and cultures, particularly in developing countries”.¹

Everyone is at least a “consumer”² of both Science and technology, and in view of technological determinism, the coexistence of modernization and tradition in the Third World, new definitions have evolved on all levels, (including gender). The pivotal question today is “what sort of realities as well as “utopias and dystopias” (as H. Rose puts it) has the technosphere produced for men and women in particular?³

New societal organizations of power and gender have developed, while the concept of masculinity is still attached to modern science and technology?⁴ These have already been absorbed in cultural and political structures in some locations of the ESCWA region and in others in process. In all cases research into the problems and related literature has developed in parallel fashion.⁵

Background in ESCWA-EGMs and documents of the past three years

“As changing gender relations have been a central aspect of the global process, some international organizations now give greater importance” to the matter. Significant among these has been the United Nations, which organized the Conference for Women in Beijing” in 1995 (Krause 1996). Some states have responded and some elite women have managed to bring the issues at the heart of political discourse.⁶

Improving the socio-economic status of women on the basis of an active national Science and Technology system in the ESCWA region has been part of previous ESCWA - EGMs and the published documents are very useful. In these, gender equity is defined in terms of individual access to and control over resources and women’s actual and potential productive contributions in the field.⁷

The recommendations of the 1995 ESCWA-EGM for gender equity in Science and Technology are in summary as follows: Education for all with emphasis on S/T; Equal opportunity for men and women for advanced training; Gender equity in S/T institutions, including policy-decision making bodies; Needs and aspirations of women and men taking into equal consideration in research priorities; Equal access to information & knowledge for the improvement of their living standards; Recognition of local knowledge systems and their gendered nature as complimentary modern Science and Technology. Obstacles and causes of the situation and the failure of programs are in turn diagnosed and stated.

Discrepancies exist and seem to persist. One of these, as D. Ezzeddine indicates, is between “the apparently low degree of awareness concerning potential social and economic benefits of reducing inequalities between

¹ H. Afshar and S. Barrientos, Introduction, *Women, Globalization and Fragmentation in the Developing World*, (ed) H. Afshar, and S. Barrientos, (UK, 1999), 2.

² L. S. Keller, “Discovering and Doing: Science and Technology, an Introduction” *Inventing Women- Science, Technology and Gender*, (ed) G. Kirkup & L. Smith Keller, (England, 1992),

³ See H. Rose, *Love, Power and Knowledge*, (Indiana, 1994).

⁴ See L. S. Keller, “Discovering and Doing: Science and Technology, an Introduction” *Inventing Women- Science, Technology and Gender*, (ed) G. Kirkup & L. Smith Keller, (England, 1992), 14.

⁵ See Introduction, *Reconstructing Gender in the Middle East*, (ed) F. Muge Gocsek and S. Balghi (NY, 1994), 2.

⁶ Introduction, *Women, Globalization and Fragmentation in the Developing World*, (ed) Haleh Afshar, and Stephanie Barrientos, (UK, 1999), 9.

⁷ Women’s Research and Development Opportunities in Selected ESCWA Member Countries, (UN-NY, 1998), 8

women and men, and the forecasts that have been producing such benefits". The reasons lie, as she believes, in the "mentality" of decision-making sides.⁸

It is also observed that if a model is to be constructed and implemented in the Arab World, it must be predicated upon the existence of at least: a national gender policy or guidelines; an established S and T system with a clear policy making-structure; and an organized critical mass gender equity advocates within S and T. These conditions obviously still do not exist in Arab countries.⁹

Women in the Middle East: Perspectives

What picture does the Middle East present with regard to positive developments in dealing with gender, ethnic, religious, regional (including rural and urban), class, and national differences? If development is a process that involves the overall growth of the human person, have women in this region really "developed" to understand and obtain "greater ability to control" their social and natural environment?¹⁰ Obviously there is no simple and unequivocal answer to the question. There has been definite yet very slow progress in employment, social participation, economic integration, women's rights, environment, research, etc.¹¹

One perspective to look at the matter is Women's Labor: A brief survey of women's labor as an index of their participation in local and global economic change shows that the common factors in career choices reveal inherent problems that have not been thoroughly researched. These are: ability or inclination; access to education and training; perceived opportunity to practice a particular career".¹²

Labor as such, both in the west and east has been and is gendered and women's labor in particular is the record of a clear division of labor, especially in relation to Science and Technology. "Models of Technology" as classified by L. Smith, show a "molding" process in the history of professions. The "craft model" applies to women, particularly in the East; the "engineering" and "applied science" models generally exclude

⁸ D. Ezzeddine, "Gender Perspective in Science and Technology Policy" (96-101), in ESCWA: Proceedings of the Expert Group Meeting on Science and Technology Policies and Strategies for the Twenty-First Century- Beirut, 10-12 March 1999, 97-98.

⁹ **Excerpts from** Women's Research and Development Opportunities in Selected ESCWA Member Countries, (UN-NY, 1998).

The "obstacles" facing reform projects are stated as:

"The aggressive and competitive character of the scientific enterprise"; "Social patterns that reinforce women's passivity"; "Social patterns that encourage the application of a masculine type of rationality as opposed to a feminine and more intuitive approach"; The encouragement given to boys to go into Science and Technology; Lack of female role models; Lack of accommodation to help women to balance housework with professions; High level of competitiveness & extra family burden on women to devote all their time. (p.5)

It is believed that, "women in Western Asia play a strong role in carrying out household responsibilities but are weak in terms of scientific performance, decision making, management and integration. In comparison with men, few women choose scientific careers, and the number of science graduates and higher degree holders are low". In addition job opportunities for women scientists are limited. (p.8)

The reasons for the very low contribution in RD decision making roles are:

Family responsibilities; The difficulty to penetrate the male-dominated Science and Technology network; Rapid pace of science; Reluctance of employers to recruit (p. 12)

Recommendations for removing obstacles and enhancing women's participation in Research and Development: More financial incentives and funding for women scientists, for and by women issues; Special research projects assigned to women; Access to information and documentation and technologies; Incentives to take leading roles in management; Surveys to identify barriers in the educational system; Higher education opportunities for women; A structure to assist women to have more opportunities for work and study; New norms to increase awareness about gender issues in the Arab world; Encourage women to choose scientific specialization and profession; Research on the work environment to create a balance between family and work; Funds for women's training and skills, workshops, conferences, etc.; Outreach and networking programs to connect women researchers in compatible areas. (p. 22)

¹⁰ *Women and Development in the Middle East and North Africa*, (ed.s) Joseph G. Jabbra and Nancy W. Jabbra, (Brill, Leiden, 1992), 122 & 1.

¹¹ See E. M. Rathgeber, "Integrating Gender into Development: Research and Action Agendas for the 1990's", *Women and Development...*, 11.

¹² L.K.Smith, "Discovering...", in *Inventing Women*, 30.

women, but there have started recent inclusions in low proportions. Of the Low, High and Intermediate technologies, women are involved in the first, especially in the east.¹³

The major factors in all labor opportunities are the rate and character of economic development; and women's labor too has been to such both positively and negatively. However, even favorable changes in types of work and rises in their wages still constitute partial economic liberation, but not "liberation" in the idealistic sense. "For one, women's entry into wage labor markets often represented a family strategy, [i.e.,] a way for a woman to fulfill what customarily had been considered part of her family responsibility". More importantly, women's occupations were and still are sex-typed. "From the pre-industrial period to the present, jobs have been segregated by sex, and women's work has persistently been associated with low skill and low pay. Sex-segregated labor markets are not simply differential markets, they are also asymmetrical: women's work is consistently ranked lower than men's".¹⁴

Despite the massive entrance of woman into the factories and the business world, the encroachment between women, work, and family persists.¹⁵ Inevitably, childbearing "limits the kinds of work mothers can do".¹⁶ Even when the demand for women in "men's" jobs has increased, her career is often part of family economic strategies, and not considered an independent profession. There surely are differences in the conditions of married and unmarried women.

Married working women still carry the responsibilities of the family and housework. Domestic technology has not significantly reduced household labor, in view of social changes: the demise of domestic servants, changing standards of living, hygiene, childcare, entertainment, etc.¹⁷

Technological Modernization, Globalization and Fragmentation: At this point, it is of no great relevance to raise the issue of the "masculinity" of technology and science. The more pressing problem is that ideally, "if technology and women's employment are to be interwoven, there must be not only quantitative participation but equitable distribution of assets, wages and productivity, skill formation and training, and institutional and organizational support".¹⁸

As of the 1980's, changes in global political economy have had a dramatic effects on the lives of women, in multiple, contradictory, and both "inclusionary and exclusionary" ways.¹⁹ Adjustments have been made in many areas to cope with globalization and these have already become "embedded" in cultures.²⁰

Since modern "capital" proved to be "gender-blind" and cheap labor attractive, women work everywhere, female labor is "increasingly integrated into global production, but in a fragmented form and with contradictory consequences".²¹ More demands are now put on women's time, and the woman/work/family

¹³ Ibid., 31. In the earlier stages of human development women were more central to the organization of social life. In the Middle Ages, women did play key roles in production and economics, yet not in control of both. With the rise of class society and division of labor, their social and economic importance receded. The Victorian faith in the power of science to improve society and rights, lost ground too. The Industrial revolution created conditions for the exploitation of women and children. The position of the middle class working women became a new phenomenon. Female Industrial labor and its consequences—as higher wages and new types of work within the industrial sphere—put the beginning of the new world. The economic boom of the 50's and 60's constituted a turning point both in the west and east. Also see Margaret Lowe Benston, "Women's Voices/Men's Voices: Technology as Language", *Inventing...*

¹⁴ Louise A. Tilly and Joan W. Scott, *Women, Work, and Family*, (NY, 1987), 2-3.

¹⁵ Ibid., 3.

¹⁶ Ibid., 8.

¹⁷ J. Wajcman, "Domestic Technology: Labor-Saving or Enslaving?", *Inventing...*, 241.

¹⁸ R. Chakravarty, "Science, Technology and Development: The Impact on the Status of Women", in *Inventing...*, 231.

¹⁹ H. Afshar and S. Barrientos, Introduction, *Women, Globalization and Fragmentation in the Developing World*, (ed) H. Afshar, and S. Barrientos. (UK. 1999).

²⁰ Ibid., 3.

²¹ *Ibid., 5.

triad remains unchanged in the process of globalization. Although part of the labor and production market, women are still on the periphery.

Modernization vs. Tradition: These are beginnings, what matters here is that modernization and globalization have failed to cause prosperity and equity, and a debate is inevitable about the social and economic sustainability of modernity. As Afshar points out, the ideal of social stability once shaken, a return to some form of 'fundamentalism' seems to be welcome for more populist factions in the east.²²

However, modernity and tradition in Arab societies coexist. The process of modernization involves: urbanization, industrialization, socio-cultural changes, literacy, and communication, ...increased opportunities of education.²³ Everywhere in the Middle East, we see the erosion of the extended patriarchal family and the emergence of the individual, both male and female, as an independent actor on the social scene. The domination of the young by the old and of women by men is no longer taken for granted. Whether publicly debated or simply reflected in the practical arrangements and relationships within the household, sex roles are changing rapidly, much as they did in Europe.²⁴ But women's sexuality is still seen as particularly potent and dangerous, so they need to be controlled and "protected".²⁵ "Men see themselves as authorities; their real power in society, their scientific/technical world view and the fact that men do have more expertise in a wide variety of 'male' areas make this inevitable. ...women's whole realm is dismissed as unworthy of serious notice".²⁶ Consequently, in this perspective, communication on equal terms²⁷ with "powerless" women difficult. The situation varies only in degree in the west and east. There are "emerging patterns" that are still "too fluid and too varied to allow any simple and valid generalizations".²⁸

Diagnosis and Strategies

The challenge facing the region is balancing valued local traditions with global modernization, which often may carry with it western concepts and perspectives. The problem has been encountered and the condition of women in the ESCWA region has indeed undergone a definite yet slow improvement. However, as this paper proposes, it is still one of the most vital areas where a "power failure" has occurred because of the serious lag created between Local Actuality (everyday realities) and Global Virtuality. The latter is the vast world of potentialities which is penetrating the region through open/close gates and fluctuating frontiers of culture and tradition; through trade, high-tech communication, info-highways, A/V media, global life-styles, etc.

The almost axiomatic "truth" this paper poses is that women in the Middle East are not powerless in their societies and that "power" in this case cannot be defined in the manner western authors do and seek it in abstract images of what they call "the Middle Eastern Woman". In the study of the condition of the Middle Eastern women, we realize that power, identity and tradition are not to be evaluated as "negative" in the context of women's much sought liberation and equity, as often envisaged by western authors. Women were in turn makers of tradition, identity and power in their societies, and beneficiaries too in their given contexts. Indeed, tradition has been a means of empowerment and a way to have a voice. In rural as well as urban societies women's voices do and have mattered in the patriarchal society. Gender identity must not be

²² Introduction, *Reconstructing Gender in the Middle East*, (ed) F. Muge Gocsek and S. Balghi (NY, 1994), 2.

²³ F. Allaghi and A. Almana, "Survey of Research on Women in the Arab Gulf Region", *Social Science...*, 10.

²⁴ A. Rassam, "Towards a Theoretical Framework for the Study of Women in the Arab World", *Social Science Research...*, 136.

²⁵ A note on women's sexuality in the Middle East: It "is believed to be specially powerful and potent. Unless controlled and socially channeled, female sexuality is capable of causing havoc and social disruption". Lacking reason, women must therefore be "protected" or controlled by men. "The perception of women as both passive and yet having the capacity to disrupt the moral and social order is used to rationalize the institution of veiling and segregation of women, seen as necessary to the preservation of society". See A. Rassam, "Introduction: Arab Women: the Status of Research in the Social Sciences and the Status of Women", *Social Science Research and Women in the Arab World*, (UNESCO, Paris, 1984), 4.

²⁶ M. L. Benston, "Women's Voices/Men's Voices: Technology as Language", in *Inventing...*, 39.

²⁷ *Ibid.*, 40-41.

²⁸ A. Rassam, "Towards a Theoretical Framework...", 136. Also see F. Allaghi and A. Almana, "Survey of Research in the Arab Gulf region", *Social Science...*, 15.

understood in western “orientalistic” terms but as part of local cultural realities. The universalized image of the passive mute Middle Eastern woman is far from real, and Middle Eastern women cannot be described as “powerless” in terms of 18th century liberalism or contemporary democracy. In the complex construct of social relationships power is contested between family members, within members of a community” and the nation. “Prisms of power reflect and deflect gender issues” and “boundaries of power are perpetually negotiated”. Consequently, the image of the Middle Eastern woman as powerless must be reconsidered,²⁹ the “myth” of the oriental woman must be “exploded”.³⁰

The basic problem to be encountered, as this paper diagnoses, is that women here are still on a much lower scale of politicization than men in the region, including and especially their comprehension of the politics of Science and Technology and their impact on local and global levels. Consequently, the principle of reform this paper suggests at a preliminary stage is to empower women not as an “oppressed” and powerless class, but by developing their sense and experience of the power they have into a socio-economic awareness and to a responsible and active capacity for legislation and implementation within society, state and global humanity.

In view of the slender success of holistic projects and recommendations for feminist reform, the failure of efforts towards “modernization” as opposed to tradition, also in view of contemporary philosophies of empowerment and gender, this paper in fact proposes a Science/Technology-based strategy that starts not from areas where Middle Eastern Woman is weak, i.e., the socio-political decision making sphere, but from a solid and comprehensive plan to politicize what it calls “tangents” where the local and the global have met and women improved. Because attacking areas where cultural shocks are inevitable and immediate change impossible will produce (as they have) adverse results. Investing on her awareness of power and success stands much greater chances. These domains are: Tradition (of both local cultures and religions), Family, Education, Crafts, Certain S/T Labor Markets, Health and Health Sciences, Arts, Social work, Fashion Industry, Food and Food Sciences, Domestic Trades, etc. Once in grasp of global S and T politics, the transition of women to broader socio-political spheres could be just a phase in a smooth evolutionary process.

In conclusion and in the light of the above, it seems that one of the problems that is overlooked in the subject of Woman and Science/Technology, is that these “areas of power” are usually brought under *negative perspective* vis a vis women’s professionalism and career choices. None of these are by nature demeaning and inferior, however when performed in a primitive and non-Science/Technology mentality, they turn into such, as they often do. How many women who are “confined” to these “negative conditions”, as they are described, have realized that Science and Technology indeed start in the self, the house and career? Are we, women and men, fully aware of the fact that our Science/Technology power consists in the manner in which we maintain the wealth of tradition, for example, and update it; in the rearing and learning of children for a globalized world; in our understanding of sexuality, hygiene, nutrition and health (both mental and physical), of arts, crafts and humanities, of labor and professionalism, of environment and nature, etc. It is true that woman’s attachment to work and family does reduce her chances outside this triad at least for a while, but the politics of running vital social units like family, school, workplace, for example, is no light matter. Furthermore, professional women have not proven to be “distant mothers” or “poor housewives”. The contrary is true: the closer they have been to centers of decision making and Science and Technology spheres, the more successful their management of family and greater their power has been. Having the power in these domains, women will have to learn how to translate it into a developed Science and Technology management skill for a better society.

Consequently, this paper suggests that to start the politicization of woman on a global scale, what must and can be done at this point is to bring these themes, even as case studies, under a *positive Science and Technology light* and restructure them as already existing domains that anyway need to be modernized and

²⁹ Introduction, *Reconstructing Gender in the Middle East*, (ed) F. Muge Goccek and S. Balaghi (NY, 1994). 15.

³⁰ Introduction, *Women in the Middle East- Perceptions, Realities and Struggles for Liberation*, (ed) H. Afshar, (UK, 1993).

where women already have power as well as some amount of jurisdiction. For a better life in our region Science and Technology must be introduced by and through women (as legislators and implementers) into these areas, where in the end, more advanced the labor, the greater the return of the investment, for her, society and the region.

