EMPOWERMENT OF WOMEN THROUGH CONVERGENCE TECHNOLOGY

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INTRODUCTION

At the threshold of the 21st century today, the issue of women in development has been debated and their role in different fields of production accepted and appreciated. All the nations today are attempting to correct the blames, wrong orientations and misperceptions regarding women's capabilities and potential in order to bring the women into the main-stream of development. As a result of the deliberation in the various international conferences during and after the International Women's Decade, policies have been formulated for integrating women into national programmes by making a shift from the welfare and beneficiary approach to an approach the partnership or total participation in development.

As Mahatma Gandhi, the father of the Indian nation firmly believed, women's productive abilities and attitudes are essential forces that need to be allowed full and free play for human development with justice and dignity. But unfortunately, women who constitute half the world's population, are often caught in a deprivation trap of powerlessness, vulnerability, physical weakness, poverty and marginalisation (Figure 1).

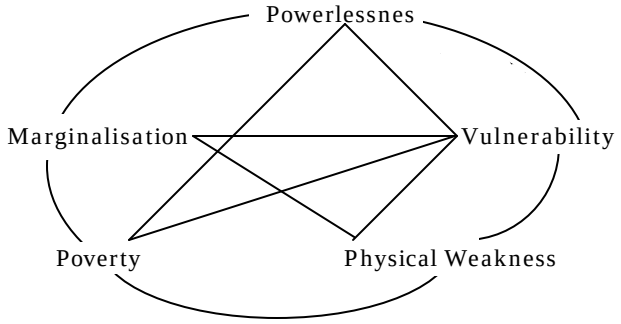

Figure 1: The Deprivation Trap

A woman is the nucleus around whom the family, the society and the whole community moves. The development of the whole community cannot be separated or viewed in isolation from the development of women. Their contribution to their homes and their work outside the home had made them powerful and indispensable agents of our society for bringing about social change and development of new technology.

The declaration of the year 1975 as International Women's year, the decade 1975-1985 as Women's Decade by United Nations and the World Conference on Women in September 1995 in Beijing,

China have become powerful agenda for Empowerment of Women. Policies and programmes have been focused to enhance the status of women which is an index of civilization and growth of a society.

The role of rural women and their responsibility in home management, child care, nutrition, health, horticulture, animal care and poultry needs have been realized in great amount during the previous millennium. Empowerment of women in these areas have significantly improved women's employment, income, better livelihood and security. The emerging information technology field also provides a conducive atmosphere for women to become more empowered. Danish International Development Agency through its survey has identified the change in the mindset of women. It has showed that 83 per cent of women are interested in scientific usage of equipment. Also the advancements in Science and Technology has paved the way for improving the position of woman by minimizing their drudgery and maximizing their ability towards all other areas.

The purpose of technological improvements is to create employment, fulfill requirements of human beings and improve the quality of life. The impact of technological changes on women should be assessed on the basis of the overall welfare implications it has in terms of improved the quality of life of women. In India were development is focussed on community development. India needs varied human resources such as skills, abilities, attitudes, potentialities and motivation to achieve rapid economic, social and technological transformation. Women have all these skills and the capacity to work with high degree of endurance.

Income Generation and Vocational Skills

Technological changes in traditional activities often displace women workers. As shown in Figure 2, low level of literacy coupled with lack of training resulting in low skills and displacement due to technology which reduces women's participation in economic pursuits resulting in an unequal status of women.

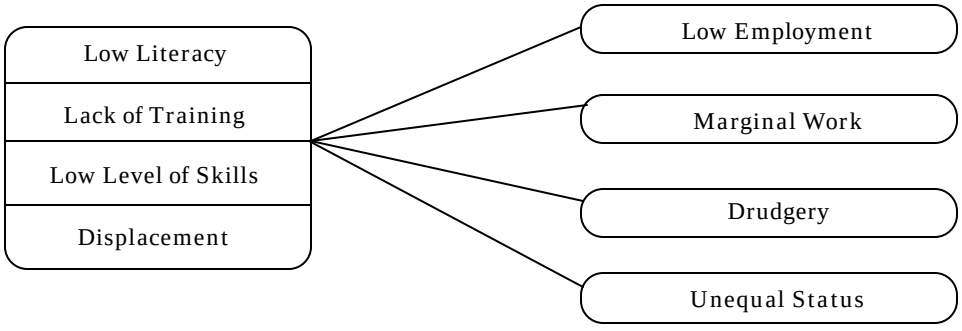

Figure 2: Factors influencing the status of women

Women's participation in the labour force has brought about changes in awareness and attitudes which may have long term benefits such as access to health services, lower birth rates, control over income and better bargaining position within the family in determining intra household resource allocation.

Education in Science and Technology inputs for income generation should be directed towards (Figure 3).

- Identifying the unutilised or under utilised local resources.
- Studying the socio cultural patterns in which women live and work.

- ✍ Motivating women to undertake economic pursuits.
- ✍ Offering necessary training in vocational and technological skills for women.
- ✍ Establishing linkages with infrastructure for credit support.
- ✍ Upgrading continuously the skills through new scientific inputs and
- ✍ Persuading women to have control over the income earned in order to empower them.

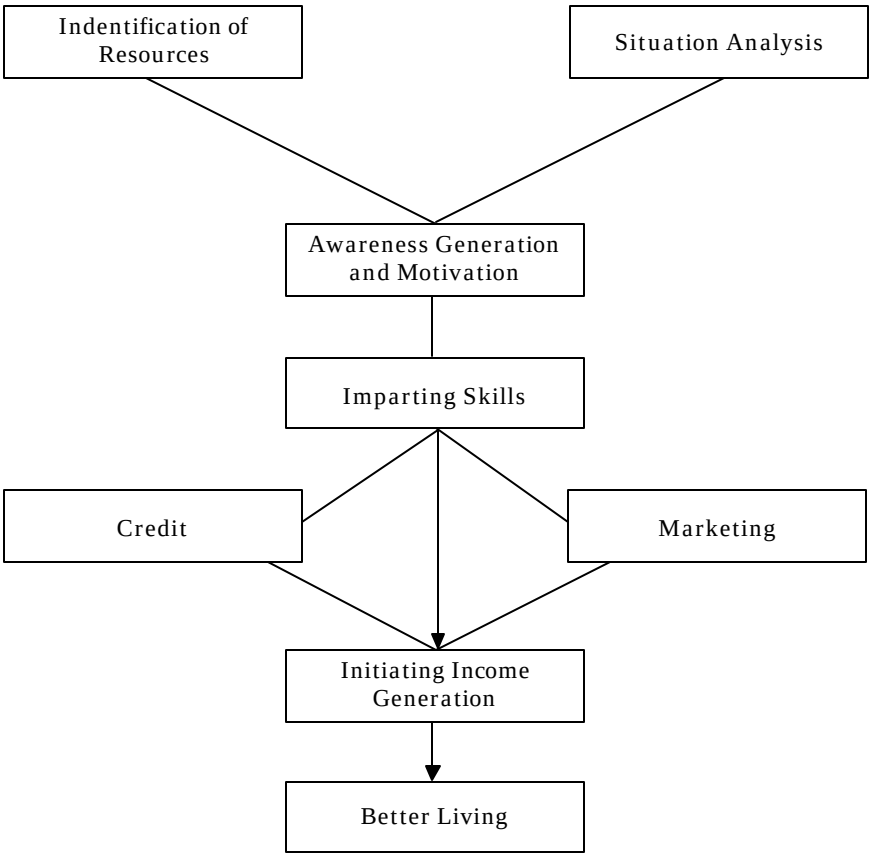

Figure 3: Science and Technology inputs for income Generation

Studies conducted by Avinashilingam Deemed University point out the need for technology adoption and skill training along with credit and managerial support. Skill training programmes for urban women conducted over the last decade by Sri Avinashilingam Shramik Vidya Peeth had benefited 2181 girls, providing 54 per cent with wage employment and 23 per cent with self employment, 23 per cent remained unemployed home makers by choice.

Economic Pursuits by Women

The National Bank for Agriculture and Rural Development and Reserve Bank of India subscribe to the gender approach to development and have given directives to the nationalised banks to offer

credit and support services to women particularly to encourage group initiatives, intensify training efforts and strengthen institutional capabilities.

Research studies by the university point out that the women entrepreneurs in Tamil Nadu, India took up 3 major categories of economic pursuits namely servicing, manufacturing and trading as shown in Figure 4.

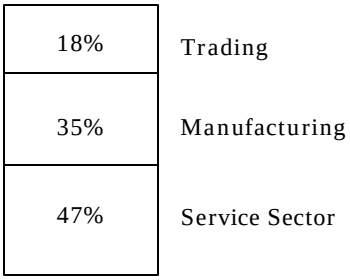

Figure 4: Categories of Entrepreneurs

A majority of 47 per cent women entrepreneurs were involved in the service sector. There is a growing trend for women to undertake services related to education, skill development, medical and health, aesthetics, communication, computer software development, xeroxing, typerwriting, clinical laboratories, beauty clinics and telecommunication services.

Sri Avinashilingam Shramik Vidya Peeth, Coimbatore initiated in 1984 as a unit of Sri Avinashilingam Education Trust Institutions has been offering need based skill training to youth boys and girls mainly neo literates, school dropouts and early school leavers. Table 1 shows the training programmes the girls had undergone.

Table 1: Training Programmes undergone by Girls

Programmes	***Percentage N = 2181***
Traditional	
Tailoring/Dress making	32.0
Hospital assistance	22.1
Beauty clinics	8.7
Composing and book binding	2.7
Accountancy/Sales	1.0
Non-Traditional	
Computer related	17.3
Electrical/electronic	6.5
Motor winding/foundry related	5.4
Diamond/Gem cutting	2.3
Manufacture of Spare parts for industries	2.0
Total	100

While 66.5 per cent undertook training in traditional skills, 33.5 per cent had ventures into non-traditional areas. Computer related courses were greatly favoured, followed by electrical/electronics and motor and foundry related skills. Training in the manufacture of spare parts was pursued only by 2.2 per cent.

Women in Agriculture and Allied Activities

Studies conducted by the researchers of Avinashilingam Deemed University, in different parts of India, on the involvement of women in farming as workers and supervisors show the figures given in Table 2. Apart from the above activities, all the women were involved in the care of cattle, poultry and related tasks. Many tasks require considerable skills and application of technology. Avinashilingam Deemed University has been involved in imparting training to rural women of Tamil Nadu on post harvest technology. Over the decade more than 30,000 farm women from 8 districts have been covered. This educational measure has brought down the post harvest losses of food grains from 8.2 to 5 per cent per annum which is an encouraging trend.

Table 2: Involvement of Women in Agriculture

Activities	*Percent*	
	Participation	*Supervision*
Sowing	38	62
Transplanting	38	62
Weeding	36	64
Preparation of seed beds	34	66
Harvesting	34	66
Post harvest operations	27	73
Application of fertilizers	22	78
Irrigation	21	79
Marketing	12	88
Operation of Implements	5	95

However in a labour intensive country like India, modernisation in agriculture should not displace women from their traditional roles, but should help in improved productivity, reduction in drudgery and diversified means of employment for women in farm related tasks. *Social scientists and management experts should work with biological scientists to determine the package of technology which will confer equal benefits on men and women in the farm.*

Women in Fuel Conservation Technology

Indian rural household have been heavily dependent on certain types of biomass such as fire wood and cowdung cakes to meet fuel needs. Statistics reveal that 83 per cent of the domestic fuel consumption to the through wood. Acute scarcity of fuel wood has forced women either to walk longer distances for fuel wood collection or use low grade fuels, along with continued use of traditional low efficiency cook stoves resulting in drudgery and ill health. Efforts undertaken to make thermal efficient cook stoves and fuels would prove to be a boon to rural women folk.

While briquettes and biogas can substitute fuel wood, solar energy will act as a supplementary fuel. In addition to saving fuel cost, the use of alternative sources of fuel brought several additional benefits in the experience of the home maker (Table 3).

Table 3: Benefits Derived from Fuel Saving Technologies

Benefits	*Percentage of homemakers (N = 500)*
Fuel wood in Improved Cook Stove	
✍ Provides smoke free kitchen	100
✍ Maintains healthy living	90
✍ Saves time and energy in cooking food and cleaning utensils	85
Biogas	
✍ Offers efficient fuel gas	95
✍ Maintain the environment clean	90
✍ Reduces expenditure on fuel	82
Briquettes	
✍ Converts waste into combustible form	95
✍ Occupies less storage space	86
✍ Burns uniformly	78
Solar energy	
✍ Ensures a non-polluting fuel	100
✍ Supplies heat energy in abundance	90
✍ Eliminates continuous attention	75

The suggested technologies have received higher acceptance by a large majority of homemakers and have been reported as being eco-friendly, economical and compatible with the socio-cultural background and life styles of the user women. We have observed that when relieved of drudgery in domestic work, women find more time for social interaction and collective action leading to their empowerment.

Women in Information Technology

By the year 2006, the U.S. Department of Commerce says that 50 per cent of US workers will be women, and it is essential that women's numbers increase in the fields of computing, the Internet and IT.

The women's technology cluster is a forum founded as an Entrepreneurial community of technology businesses in which women have a principal ownership stake. The cluster incorporates the key elements of an industry focus incubator to build upon the success of this model in growing start-ups. The Women's Technology Cluster selects and houses start up information technology

businesses in software, multimedia, Internet and e-commerce and any area broadly defined as IT. The central objective of the WTC is to facilitate access to capital for women entrepreneurs. The National Foundation of Women Business owners reports that of the nearly 8 million women owned businesses in the US, only one percent have used venture capital financing. Technology companies represent the majority of venture capital deals. Over 30 per cent of all newly formed women owned businesses are in the technology based sector. Yet women received only 1.6 per cent of the $33.5 billion invested by venture capitalists between 1991 and 1996. The goal of WTC is to develop a model for breaking structural and cultural barriers by accelerating the growth, reducing the perceived risk, and facilitating access to angel investors and venture capital financing for women technology entrepreneurs.

The top 10 per cent of all the top executives of Silicon Valley companies are women. The pipeline of women with scientific and technical backgrounds resources, first class business education and management experience which has dramatically changed over the last decade. From 1988 to 1998, the number of women owned businesses has grown from 4 million to 8.5 million. Women also employ 18.5 million people and generate $ 3.1 billion in sales. Other recent Government and National Foundation of Women Business owners data show that: Women own and/or lead nearly 50 per cent of all businesses in the states. Women run businesses employ 35 per cent more people. Fortune 500 women owned businesses are growing faster than the economy in each of the top 50 metropolitan areas in the U.S. Sales by US women - owned businesses increased to 237 per cent between 1987 and 1996 due to the revolution that have taken place in the IT. The IT task force formed by the Delhi Government under Mrs. Shiela Dixit has drafted an IT policy for Delhi. This 20 point IT policy mentions a vision and outlines plans for different segment like weaker sections, women, rural areas, traffic and transport through digitized work force, network Government and e-governance. Many organizations and forums have been formed to promote awareness on issues affecting women in the computer industry and encourage women to enter into IT career. Many also serve to promote IT education.

Action Strategies for the Future

Research and Development Efforts

The R&D efforts for technology generation must take note of the participatory approach and involve the women concerned.

Communication and Extension

The women concerned need to be sensitized to acquire scientific knowledge temper and skills. Teaching and learning need to be a developed by the extension agencies to disseminate the findings of scientific research in a way women would understand the content. Powerful mass media such as the TV, AIR and Print media should reorient their programmes to fulfill this need.

Government's Role

Science and Technology inputs must be incorporated in all developmental programmes initiated by central and state governments, particularly in the total literacy and post literacy campaigns and continuing education. The Government should also ensure delivery of inputs and services required for follow up.

Non-Government Organisation (NGO) initiative

The NGOs' at the grass roots must strengthen their efforts to create a scientific climate and promote indigenous technologies.

Conclusion

Technology is a powerful instrument for empowering women, as it opens the doors to modernisation. If women have to accept unconventional vocation, training them in technical skills alone will not suffice as illustrated in Figure 5 Women need to be trained in managerial skills also.

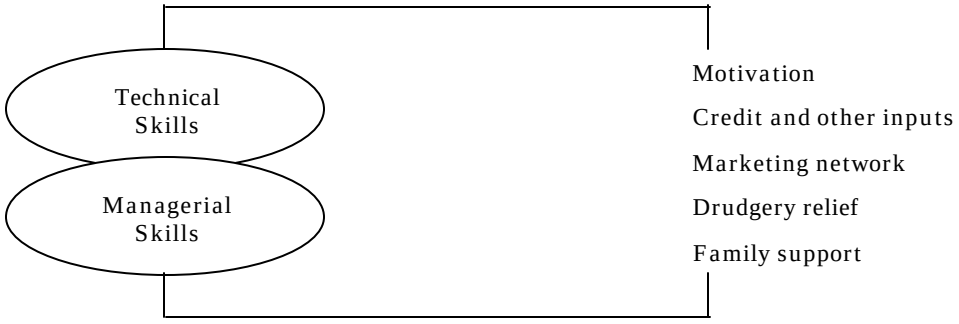

Figure 5: Women need to be trained in managerial skills

There is a saying "women toil with two thirds of the world's working hours receive one tenth of the world's income and own less then one-hundredth of the world's property". All successful efforts on technology generation and dissemination experimented at the micro level should be translated into technology policies and programmes at the macro level by planners, policy makers and government machinery, so that they do not remain sporadic, isolated efforts and later discarded. Proper orientation, guidance, training and motivation in IT field, awareness among women and appropriate planning by policy makers in IT field will place women in the high profile of IT. That time the new saying will be, "women toil with half of the world's working hours, receive half of the world's income and own more than half of the world's property".

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