

Women doing it better

Reports show that women science leaders who have made it to the very top have proven that they are just as capable if not better, than their male colleagues. This was apparent at the Manila Symposium. Women attending this meeting were in key positions in their fields as well as having discovered and created inventions that affect our daily life, from providing ways of increasing the use of bath soap to discoveries useful in protecting the environment.

One such scientist from Thailand is Dr. Jira Porn Sukhumavasi, who is currently Acting Director of the Bio Technology Laboratory at the Thailand Institute of Scientific and Technology Research. One of her accomplishments is to have been the main discoverer of the use of bacteria in protecting the environment during oil spills. This bacteria is now also being used in part for waste management of petroleum residue, for gas pumps, glassware and bearing product factories as well as everyday oil.

So next time you read about another 'man' made disaster involving oil spills, you can be sure that this discovery by an Asian woman is helping to protect our environment and save marine life.

Sources: Women in Science and Technology Development and Transfer International Symposium held on July 13-17, 1992 in Thailand, published by Approtech-ASIA and WISE-Thailand, pp. 40-41.

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The Vietnamese Woman in Scientific Creation and Technological Transference

by Hoàng Thi Lich, Vice Director of the Centre for Women Studies, Hanoi.

There is no doubt that women have made extraordinary advances in Vietnam in recent decades in many areas of life. Their achievements are particularly impressive in education and entry to the workforce, especially into non-traditional occupations for women. This is especially so as women have to overcome both historical biases favouring males in education and management positions as well as colonial discrimination that largely denied women an education.

Achievements are seen in the data showing that by 1991 women made up more than half of the labour force in 8 out of the 19 industry / employment sectors (1); more women are employed in computer services, informatics, production and business and in techno-scientific fields.

This article by Hoàng Thi Lich, Vice Director of the Centre for Women Studies, outlines these changes. She highlights the role of women in the sciences while pointing out the effects of continuing traditional gender role stereo-typing on the lives of women in science.

Background to women's achievements.

'While women's participation in education in Vietnam has been outstanding in the past three to four decades, attention has to be paid to our country's reality that

the number of people with education at college or university level is low. One reason is that under the French colonialist domination, 97 percent of Vietnamese women were illiterate, the few who had the opportunity for education only finished secondary education and women who graduated from universities could be counted on our fingers and there was only one doctor.

In the new regime, after the August Revolution of 1945, especially since the restoration of peace in North Vietnam in 1954, the state's policy of compulsory education and exemption from school fees at all levels encouraged women to get an education. For example, in April 1989, 88 percent of the total population were literate as were 84 percent of all women, but women accounted for 70.6 percent of all illiterate people. The changes created favourable conditions for those dedicated to schooling to seek promotion for themselves in the way of science.

Educational level and professional qualifications of the total population aged 15 years and above by occupation and sex in 1989.

Occupational level	Male	Female	Both sexes
	%	%	%
Unskilled manpower	88.1	93.3	90.9
Skilled manpower:			
with certification	3.7	0.19	2.2
without certification	2.6	1.2	1.9
Middle technicians	3.1	3.3	3.2
College graduates	2.5	1.9	2.2

Women and Science - gaining ground

Since the early 1980's, women have made up 41 percent or over 14,000 in number each year, of college and university students, until 1988 higher education was still subsidized by the state. This is the source of the very precious supply of female intellectuals working in all branches of science, economy and culture, for scientists this is only the departure for them to step into the thorny road of science.

remained underrepresented in the natural sciences at 3.56 percent and agricultural science at 23.7 percent (2).

Reasons given as to why women make up a great number of people working in these fields is that they generally have innate character, sentiment, endurance and skillfulness suitable for these sciences.

After a number of working years in research institutions or colleges, capable women are usually trained further to the level of candidate doctor and doctor. The number of women reaching university and post-university levels has increased rapidly in recent years.

training and employment of women. Moreover, after many years of prolonged war, the Vietnamese economy has been so backward and poor that investment in teaching and scientific research may still be at a very low level. The women themselves have not been liberated from household chores and in the condition of less developed social services, few women have been able to give their time to scientific study.

However, now more than ever Vietnamese women can realize fully the pre-eminences of the democratic and equal environment of the society in which they are living, as pointed out by Professor Dang Thanh Le,

'Through one thousand years under the feudal system there was only one female doctor (in comparison with 2,874 male doctors) and even in 100 years under the French colonial rule only a single female doctor graduated. Formerly women had no position in education, in university as well as in doctor examination' (3).

Women's contribution to the development of science and technology in Vietnam

Women have made considerable strides in responsibly managing scientific institutions, directing scientific themes of the state or projects financed by foreign countries. In the period 1986-1990, 14 women were conferred certificates of merit by the Council of Ministers and the State Commission of Science and Technology after the completion of their research projects. From 1985 up to 1992, Vietnamese female scientists and technicians have been encouraged in their studies and application of research results through receiving the Kovalevskaya award, 14 women have received the award for their notable accomplishments in studying sciences and technology, in and applying science to practice and for their



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Why low numbers of women at professorial levels?

In 1988, while women made up 37.7 percent of all people working in technoscientific areas, in engineering and technology it was 30.6 percent, in medical science 60 percent and social and human sciences 49.2 percent. However, women

In comparison with men, the number of women at professor and associate professor levels is small because Vietnam has been heavily influenced by the feudal ideology of high preference for males and special importance was not attached to the

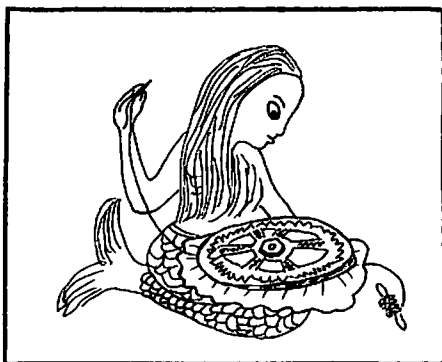
active contributions to the Vietnamese women's movement.

Change and continuity - career, tradition and sexism

The achievements of female scientists have been made even as women still have to undertake social affairs and household chores. In Vietnamese society the woman has two duties: productive labour and family labour.

Undertaking the first duty is done at the same time women undertake their 'natural function' of acting as a wife and mother. The birth, suckling, taking care and bringing up of their children are a sacred mission of every woman, the female scientist is no exception. For a woman, the family has a very important role, and sometimes it is the number one duty in her life. To attend to the husband and children, to build a cozy home and to create a harmonious and happy family is the source of life and sentimental mainstay of the woman.

For a female scientist, with the difficulties and complexities of study and creation, the encouragement and inspiration of the husband and children are always the first things conducive to her scientific achievement. Nevertheless, the birth and bringing up of children have certain effects on the progress of the woman. Particularly nowadays, the woman has to spend a lot of time buying



Kora Dandan-Albano

At the end of 1991, the qualifications of women were as follows:

Unit: persons Level	Total	Number of women	Ratio
1 - Professor	601	24	4
- Associate professor	2,801	119	4.25
- Doctor	393	23	5.85
- Candidate doctor	7,083	1,380	19.5
2 - University-College	695,778	263,700	37.9
3 - Vocational middle level	1,177,991	662,031	56.2
4 - Technical worker	597,441	215,079	36

(Source: Draft document of the 7th. Women's National Congress from reports of the General Department of Statistics and the State Commission of Science and Technology).

and processing food for her family while her salary is limited. When technology is not developed yet, every job in the house such as washing clothes, tidying up, mopping the floor, cleaning the dishes, etc. are all done by hand. Therefore for each success in science by the woman, it costs her a good deal more labour than for the man, usually two to three times more. The reason is that the woman must shoulder the household chores with innumerable different trifling things. Moreover, the woman has to work in the social surroundings influenced a lot by the traditional social ideology.

Today many female scientists have undertaken both science management and production management. This is different from managers in other fields, first of all they themselves must be good scientist, only then can they perform their responsibility well. In the offices where there are male colleagues, female managers still have to overcome sexual biases that have existed for a long time in the Vietnamese psychology.

In a conversation with Mrs. Nguyen Thi Bau a Kovalevskaya awardee, I asked,

'What are the reasons for your success?' She answered 'In

addition to the support of the family and the office, the ardour for science, the endeavour to win victory each day is no less important.'

Diligence, hard work and ability seem to be the reasons.

Problems Raised

Recognize women scientists contribution and meet their needs:

While the female student must overcome difficulties such as those mentioned above, the state and various ranks of management must know and recognize women's contribution in the area of science so that their present needs can be met. Only on this basis can the women be helped to bring their capabilities into full play and dedicate more to science - especially when we are on the threshold of the 21st century, the century of science.

The state must pay attention to the development of female scientists and ensure gender equality:

First of all, it is necessary to create really equal relations in science. Data from

the State Commission of Science and Technology shows that from 1986 to today (1992) no female scientist has been entrusted with the chairmanship of the State Scientific Programme. In the above period only 15 out of 300 chairs of state-level themes have been women. Though women have scientific prestige they still encounter difficulties in being elected to various levels of scientific management. If any of them is elected, she often takes the associate position, not the chief one.

The state must plan for the training of female scientists, it must foster their knowledge and give them intensive and regular training, as well as short term training in new knowledge and skills, before they are involved and busy with the birth and bringing up of their babies.

The state should have a budget for books, magazines and materials frequently used and needed by the scientists. Through international organizations, it is necessary to create opportunities for female scientists to exchange scientific experiences with scientists the world over. The state should consider this to be the occasion to nurture their speciality and practical experiences.

Salary system:

The State should have a salary system guaranteeing the livelihood of scientists. Female scientists have not time and energy to increase their income in addition to their

careers. Therefore the guarantee of their livelihood by salary is a very urgent need for them. The state should reserve an appropriate ratio of the budget for sciences in which one portion would be used for research and experiments and another to support scientists including female ones and publish their scientific works.

Child care:

The exigency to have people to take care of female scientists' children is very pressing, especially at their birth age. They desire to re-establish the system of crèches and kindergartens with expenditures granted by the state. In general they want to have a lot of fast food with a reasonable price to give more time to scientific study while the household chores are well done.

If women are considered as objects for the technical branches to serve, then technicians must understand the labour of women, must value and perceive the significance of their work and have technical measures supporting them in work and life.

Scholarship Support

Mass organizations such as the Union of Techno-scientific Associations, The Vietnam Women's Union, etc., are going to set up the fund named 'The Centre Supporting Women's Scientific Faculty' to enable female students to have more scholarship in order to stimulate them in learning; to finance the publication of research works by female scientists who have economic difficulties; and, awarding prizes for the prominent scientific works of women. This

centre will call for financial support from international organizations sponsored by the Union of Techno-scientific Associations.

It is also necessary to organize a special club for female scientists that will be the place to exchange their experiences in scientific research and management, at the same time to expound their innermost feelings and aspirations.

Scientific labour is a specific kind of labour. To have a scientific expert needs investment and fostering by the society as well as the serious attempt of the individual scientist. To have a detachment of female scientists it is necessary to have a correct viewpoint towards the training and employment of female scientists and a programme with a lot of socio-economic measures to meet the above right decisions.'

- (1) Education and training, light industry, public health, trade, finance-credit, state insurance, agriculture and food industry and post and telegraph; and, women constituted between 30 to 40 percent of the work force in construction, air communication, culture, literature and arts, irrigation, national defence, heavy industry, diplomacy, railway, communication and transport and energy; data from the General Department of Statistics.
- (2) Data from the General Department of Statistics.
- (3) Professor Dang Thanh Le, paper delivered at the 7th Congress of the Vietnam Women's Union, Hanoi, May 1992.

Source: 'The Vietnamese Woman in Scientific Creation and Technological Transference' by Hoàng Thi Lich, Vice Director of the Centre for Women Studies in Vietnam Social Sciences - The Quarterly Review, Special Issue on Vietnamese Women in the 90's, 4 (34) 1992, National Centre for Social Sciences.



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