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My interest in promoting more women in science

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In my early years, I was tremendously fascinated by music, dance and culture, and my family thought that I would become an artist. In class five, I had a great biology teacher and I started taking interest in botany. After that, I was fascinated by plants; with a fairly good memory, it was possible to identify and classify them and remember all their names. In college, my friends started calling me the 'encyclopedia of plants'. As soon as I joined B.Sc., it was clear to me that I wanted to become a scientist. My inspiration was Marie Curie, about whom I read a great deal.

Basically, there was no specific influence *per se* which made me choose a career in science. It was my own decision. I must also admit that in pursuing a career in science as a student, I did not come across any major obstacle from my family or teachers and I finished my thesis in the shortest possible time. My Ph.D. guide, Prof. A. R. Rao in the department of botany at Lucknow University, was a great source of inspiration. I then had a very productive post-doctoral period at Purdue University with Prof. A.C. Leopold, and later at the University of Copenhagen. The problem started when I came back to India and wanted to join a particular

institute to pursue my research. I already had a pool officership, but I was not able to join the institute and eventually I had to leave my active research career and join the government in a managerial position.

This was the turning point in my career. My love for science, self-confidence and above all my will power helped. No matter what obstacles arise, if you are determined to fulfil your dream, all you need is dedication and hard work. I took up science management and administration as a challenge and wanted to use my scientific knowledge, my deep commitment and love for science, as well as my confidence in science and technology as a major vehicle for societal transformation. Things did work the way I wanted!

It is important to mention the names of some very distinguished scientists of this country who were not just a source of inspiration, but were very supportive and provided mentorship, guidance and encouragement to me. Starting with Prof. M. S. Swaminathan, Dr. A. Ramachandran, Prof. M. G. K. Menon, Prof. A. K. Sharma and Prof. P. N. Tandon; all these eminent personalities, at various stages in my life, have played a pivotal role in helping me to arrive at suitable decisions and also guided me in promoting and processing science at an accelerated pace.

There were many critical moments when, because I am a woman, I faced serious problems and hurdles in pursuing what I wanted to do, but with the tremendous support and encouragement of a large scientific community, especially younger people, I never lost my confidence and faith in pursuing the promotion of science.

It has been a wonderful experience working very closely with the scientific community both in India and abroad, both with senior people and the younger generation. This satisfaction along with many achievements have helped me to sustain my career in science. The human angle always received priority in my working approach. I also strongly believed in the consultation process involving the scientific community at all levels. I was conscious of the need for national, regional and international development of biotechnology as also strong networking and linkages

to benefit from 'each others' experience and expertise. In particular, I am happy with the success I achieved in promoting the field of biotechnology and biology in a manner that will be truly relevant for the country.

An area of concern to me is the need for a skilled human resource pool and reducing regional imbalances in the field of biotechnology. I feel strongly about the need for full utilization of fifty percent of the human resources in the country—women in the development of science and technology. I am convinced that women can contribute to the progress of science and technology, bring in more diversity, enrich the cause of science and help in capacity building. The other burning issue always on my agenda was the working and living conditions of the women in rural areas: their drudgery, the prevalent gender disparity and bias, and low incomes. I was desperate to do something for them and I continue even today, as far as possible, to take more and more initiatives in this direction.

I was asked by Dr M S Swaminathan to write a section on science and technology for women in the sixth five year plan (1980-85). This gave rise to the first focused scheme on the subject, which has been operated since then by the Department of Science and Technology. Since then I have continued to work on this theme the latest being the report which has now been accepted by a large number of academies of the world.

I am confident that the twenty-first century will see many new dimensions of the progress of women scientists and technologists, and witness large-scale scientific and technological empowerment of women, especially at the grassroot level. Our country will achieve its goal of being a 'knowledge society' and generating wealth from knowledge, once this fifty percent of its human resources is equally and scientifically empowered and made technologically self-reliant. Presence of woman in leadership and decision making positions will help to achieve this goal faster.

Gandhiji had a deep appreciation of the value of educating women, who are the first teachers of their children. He said "When a man is educated, an individual is educated, when a woman is educated, a family and a country are educated".

It is of utmost importance to attract more girls towards a career in science and to work for underprivileged women, especially taking care of their health, nutrition and livelihood requirements. I appeal to all the women scientists in this country to launch more initiatives for the welfare of women and young girls. A cadre of women scientists and technologists would accelerate the pace of socio-economic progress in this country. Despite hurdles and difficulties one has to undergo to achieve some success in life, one should never give up.

I feel that women are the most wonderful creation of God. As beautifully described in the words of Rabindranath Tagore:

“Women, when you move about in your household service your limbs sing like a hill stream among its pebbles.

Woman, thou hast encircled the world’s heart with the depth of thy tears as the sea has the earth.

Woman, in your laughter you have the music of the fountain of life” (Poem “Stray birds”)