

A former student and friend of six decades reminisces about M S Swaminathan, a man of ideas and of action

THINKER, TEACHER, SCIENTIST, SAVIOUR

Professor P C Kesavan

I first met Professor M S Swaminathan in 1962 when he gave a lecture on the "changing concept of the gene". He had explained the structure of the gene and how it could be related to classical or Mendelian genetics. It was a fantastic lecture.

I approached him immediately after and said, "I want to be your student." He told me to apply for a PG admission at the Indian Agricultural Research Institute (IARI), New Delhi, and said admission would be based on my performance.

That year, I applied for PG admission and secured the top rank. Based on my performance I was assigned to do my PhD under Professor Swaminathan. He was happy to accept me as a student.

He advised me to take several courses, some of them in the physics department. I was nervous about taking physics courses as I was weak in the subject. I explained my apprehension to Professor Swaminathan, who asked me to meet the head of the department. The HOD advised me to study basic mathematics as well. I returned to Professor Swaminathan, terribly upset. He looked at me



NATURE FOR ALL: M S Swaminathan at the touch and smell garden he created for the visually impaired

calmly, and said, "Physics and math are important to every branch of science. So, learn them well."

I followed the advice he gave me in 1963, and my destiny took me to so many places and positions, including the Bhabha Atomic Research Centre (BARC) in the 1990s, which was when I truly realised the foresight of Professor Swaminathan. The physics courses stood me in good stead during the five decades of my active research in radiation biology.

MSS was a great scientist with a wide spectrum of knowledge and interest. He was never limited and did not allow himself to be limited. He was a great teacher, who would simplify com-

plex issues. Despite his heavy schedule he would meet students at 11am every day and have discussions over a cup of coffee.

One day, he dropped in with a handwritten note, which mentioned 'indirect effects of ionisation radiation', and said, "Maybe you can work on it for your PhD." I went to the library to look for a textbook on the subject, but did not find any. I went back to him and told him so. He drew my attention to an article in a scientific journal which dealt with the subject. This revealed how he was reading articles on science subjects beyond agricultural genetics.

In June 1967, I was leaving for Canada. I went to



FIELD OF VISION: M S Swaminathan's interest in science went beyond agriculture

his house in IARI to say goodbye and he invited me to stay for dinner. At the end of the meal, he brought out a mango, and offered it to me. "It's something you will miss in Canada," he said. He later drove me to the airport and as it was my first international trip, and along the way explained various formalities to be completed at the airport.

I returned to India four years later and joined the School of Life Sciences at Jawaharlal Nehru University, New Delhi. In 1993, I was invited by the Department of Atomic Energy (DAE), Government of India, to join BARC and lead the biology group as director. At the end of the tenure, DAE appointed me Homi Bhabha Fellow and instituted it at the MS Swaminathan Research Foundation (MSSRF), Chennai. This again reveals the importance accorded by DAE to MSSRF.

While accepting the fellowship, I informed the gathering I had become a student of Professor Swaminathan for the second time in my life.

My association with Professor Swaminathan widened my understanding of the need for sustainable development, which requires simultaneous attention to ecology, economics, and social needs. In this regard, we published scores of research papers,



M S SWAMINATHAN

August 7, 1925 - September 28, 2023



EVERGREEN HERO: Swaminathan believed sustainable development should be a blend of ecology, economics and basic needs

some in prestigious scientific journals such as the Philosophical Transactions of the Royal Society.

Under his leadership, MSSRF harnessed science and technology to solve social problems such as the lack of livelihoods and hunger. He focused especially on women's empowerment in rural areas. He set up 'village knowledge centres' and women were in charge of establishing lab-to-lab, lab-to-land, land-to-lab, land-to-land connectivities, enabling them to contact scientists and technologists. These are stories illustrative of Professor Swaminathan's personality, not exhaustive, of his qualities.

I remember one day he looked around MSSRF and said we had such a rich biodiversity, but one the visually impaired would not experience. In a flash, he followed up thought with action and created a touch and smell garden for the visually impaired. MSSRF developed many new ideas and innovations and put them up for demonstration in rural

areas. Since MSSRF was primarily a research institution, he believed it was left for other agencies to replicate and intensify. Innovation was a guiding principle in MSSRF's approach. For example, to combat 'hidden hunger' (malnutrition caused by deficiencies of vitamins and minerals especially in rural areas), he set up nutrition gardens to remedy nutritional maladies.

Although polite and soft-spoken, he never hesitated to call a spade and a spade. When he was the head of the division of genetics in IARI, a superior officer wanted action to be taken against a scientist on deputation at an international conference who failed to return on time. He had overstayed by a day to discuss scientific issues with fellow researchers. Professor Swaminathan explained this to the officer. Yet the officer wrote on the file, "Was it inevitable?" Professor Swaminathan wrote in a reply on the same file, "Nothing but death is inevitable." The file was closed.

Despite the fact that Professor Swaminathan changed the image of India as the "begging bowl" in the early 1960s to "breadbasket" in 1968, he was not given the Bharat Ratna. This gives an erroneous impression that successive governments have not done justice to Professor Swaminathan and agriculture as a whole.

(The writer is a former executive director at MSSRF)

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