

[Anil K. Rajvanshi \(72/B.Tech/ME/IIT Kanpur\)](#)

(This story has been written by Aruna Raghuram a Freelance Journalist for the book “100 Great IITians: Dedicated to the Service of the Nation” (Ed. Cdr. V. Jaitley))



What made Dr. Anil Rajvanshi, now 72 years old, quit his lucrative job in the US and return to serve rural India for the past four decades? “It was madness, some kind of passion I would say, and arrogance. I was too attached to the story of India. An idealist, I believed that since I was born and raised in India and had come to the US only to study, I should return to my motherland. If you want to do something different in life, you must have a streak of madness. I was arrogant enough to think I could change India, but it’s India that has changed me”, says Dr. Rajvanshi, who was awarded the [Padma Shri last year](#).

He has done pioneering rural development work, mainly based on renewable energy. This includes renewable energy-based cooking and lighting, power generation from agricultural residues, renewable fuel production from agriculture, electric cycle rickshaws, water purification and effluent treatment using renewable energy. All this has greatly impacted lives in rural India. He was the first person to promote the use of high technology for rural development. He is currently the Director and Honorary Secretary of Nimbkar Agricultural Research Institute (NARI), situated in a small town called Phaltan in Maharashtra. His wife, [Dr. Nandini Nimbkar, is the President of NARI](#), a non-profit research and development institute set up by her father in 1968.

Nationalist Leanings

Born and raised in Lucknow, Dr. Rajvanshi went to St. Francis School. Somehow, wearing a tie and speaking English symbolized to his young mind ‘colonial control’ and he started reading books in Hindi and became an avid reader of Indian folk tales. His father went to jail with Mahatma Gandhi in 1942. This fact and being

gifted the autobiography of Mahatma Gandhi, 'My Experiments with Truth', at the tender age of 13, completely changed and shaped his life. "The book had a profound influence on me. It triggered in me an interest to learn about the Indian spiritual tradition. I would go to a library nearby and read religious texts and ancient epics," he says. This included the 'Bhagwat Gita', 'Mahabharata', 'Ramayana', 'Koran', 'Bible', 'Rigveda', 'Upanishads' and 'Patanjali Yoga', among other books.

"I also started meditating in addition to the reading. Those [spiritual experiences](#) helped me think about things very deeply," he adds. Interestingly, it was his [fascination for steam engines](#) that motivated him to take up engineering. He completed B Tech and M Tech from IIT, Kanpur in 1972 and 1974 respectively. Then he obtained a Government of India scholarship which enabled him to go abroad to do a Ph.D. at University of Florida, Gainesville, US. [He was in the US from 1974 to 1981.](#)



"I met my wife at the University of Florida. Both of us decided to return and set up base in Phaltan, which is about 100 km from Pune. I then started [energy and sustainable development work at NARI.](#)" says Dr. Rajvanshi. Phaltan, at that time, was an overgrown village with very few facilities.

Sometimes he had to hop on a bus to Pune to make long distance calls! Dr. Rajvanshi feels that life in Phaltan was responsible for "detoxifying him". "Living in rural India taught me humility, sustainability and enhanced my spiritual leanings" he says. It also brought about in his mind a combination of spirituality and technology which he thought he could use for the country's development. He also says that whatever little he has achieved is because of the tremendous support of his wife Nandini.

Technology-Spirituality Link

Given that technology and spirituality are not on the same page, what is it that Dr. Rajvanshi means by saying that the combination sparked off new ideas? "I have

always felt that when you are looking for higher things in life, your immediate needs must be taken care of by technology. Technology makes your life simple and comfortable. But there is a need to utilize technology through the wisdom of spirituality for the benefit of mankind. That's why I see a link between [spirituality, technology, sustainability, and happiness](#). If we follow this maxim, we will become a sustainable and holistic society," he explains.

And what drives him to innovate? "When you can deeply observe your surroundings with your eyes and ears, you will find infinite problems that need solutions. To solve problems, one needs to innovate. For instance, the 'Noorie' lantern was made after we saw the large number of homes without any electricity. Again, seeing the plight of poor people, we pioneered the concept of rural restaurants," he explains, branding it as the "[romance of innovation](#)". In the late nineties he pioneered the concept of using ethanol as cooking and lighting fuel for rural areas. This strategy has been replicated by institutions like World Bank and the Cooking Stove Alliance of the UN.

His group was the first to initiate a programme of [electric rickshaws in the country](#) in the nineties and also developed the multi-fuel 'Noorie' lantern and multi-fuel lantern cum stove called the 'lanstove'. Dr. Rajvanshi pioneered the concept of rural restaurants in 2012. This probably led to the setting up of Amma's Kitchen in Tamil Nadu and Shiva Bhojan in Maharashtra. NARI was the first institute in the world to develop a 500 kW (thermal) sugarcane leaves' gasifier in 1995 and was the principal author of [National Policy on Energy Self-sufficient Taluka](#). He also pioneered the development of low-cost solar-based water purifiers. With his belief in sustainability, Dr. Rajvanshi has adopted a simple lifestyle since he considers Mahatma Gandhi his role model.

His house in Phaltan is located on a two-acre plot with trees planted by his wife, a haven for nearly 40 different types of birds. The house is kept cool by laying old jute gunny sacks on the roof and sprinkling water on them once or twice a day. This, along with the use of only fans and LED lamps, keeps electricity consumption low.



Lanstove



E-rickshaws

He still uses a 20-year-old refrigerator. The practice is to repair rather than discard and purchase new appliances. All kitchen waste is composted, and no food is wasted. Plastic garbage is minimal. The eggs are mostly from local poultry, milk from cows across the road and vegetables and groceries from their own farm or the local market. Dr. Rajvanshi mostly wears khadi or cotton spun in cottage industries. Clothes are worn till they get torn. Then, they are converted to cleaning cloths. Similarly, all the papers in the office are used for writing on both sides and then brought to the house to heat bath water. And despite [this grounded lifestyle](#), his work has attracted global recognition.

Accolades

In 1998, he became the second Indian to be inducted in the US-based Solar Hall of Fame. In 2001, Dr. Rajvanshi received the prestigious Jamnalal Bajaj Award for the use of science and technology in rural India from Dr. Manmohan Singh. His efforts led to NARI getting the FICCI Platinum jubilee Award in 2002 from Prime Minister Atal Behari Vajpayee.

His work on ethanol lanstove was given the 2009 Globe Forum Award for sustainability research in Stockholm from HRH Crown Princess Victoria. In 2014, he became the first Indian to receive the [Distinguished Alumnus Award of University of Florida, USA](#) and in 2022 he received the Distinguished Alumnus Award of IIT Kanpur. He was also named as [one the Legends of IIT Kanpur](#). In 2022, the Government of India honored him with the [Padma Shri](#) in Science and Engineering.

Padma Award



Dr. Rajvanshi has [written extensively on his work on spirituality, technology, and sustainability](#). He has more than 250 publications, seven patents and five books to his credit. He has given inspirational lectures on his work to more than 10,000 students in IITs, IIMs, and other colleges across the country.

Dr. Rajvanshi has two daughters. One is in the US with her husband. His second daughter is a trustee and teaches at Kamala Nimbkar Balbhavan School in Phaltan, where she studied herself. "Leisure time is spent thinking, reading, and writing.

I am also an expert chef and was a keen traveler before the pandemic," he says. Dr. Rajvanshi's biggest contribution is showing the world how a small research institute working with limited resources can pioneer technologies for rural India. And show the way to not just the rest of India but the world.



Rajvanshi family

May 2023

[HOME](#)