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# March for Science: Indian science needs more funds, more faith and more support

For India to be competitive and at par with the scientific enterprise in developed nations, we have to have consistent and generous funding for science. The India March for Science, which follows and has the support of the international March for Science held across 600 communities in April, is led by such a need.

OPINION (HTTP://WWW.HINDUSTANTIMES.COM/OPINION/)

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Chetana Sachidanandan



The goal of Indian science was never to win Nobel Prizes, but to achieve food self-sufficiency, affordable drugs and low cost satellite launches. And Indian science has met these goals more than admirably. But the work is not done yet.(Getty Images)

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Science, according to the Oxford English Dictionary is, the intellectual and practical activity encompassing the systematic study of the structure and behaviour of the physical and natural world through observation and experiment. The ancient man who watched the flow of water, the growth of barley seeds or the orbit of the sun did so for the wonder of it. It is the wonder, that has always driven science. The wonder that revealed the secret workings of nature, which we harness today to run our world of drugs and crops and computers. To equate science to technology or product development is short-sighted.

In the scientific method, I would notice an interesting behaviour of nature, create a hypothesis to explain the observations and then do experiments to test whether the hypothesis holds true or not. If not, I go back to the drawing board to start with a new hypothesis. So, science by definition, is about mistakes made and mistakes corrected. It is about being wrong until you arrive at the truth. This makes science a slow and iterative process that takes time, expense and effort. Today, with a large number of researchers connected through rapid exchange of knowledge, discoveries happen faster. We are able to take on huge challenges and solve deeper mysteries. We are able to dig for Higgs Bosons and solve the mystery of the Zika viruses.

The United States of America, the undisputed leader in scientific research and discoveries spends more than 2.5% of their GDP on research and development enterprises (according to a study by Nature in 2015). The USA employs an estimated 790 per lakh of their labour force in scientific research. In contrast India has spent less than 1% of its GDP on research and employed only 40 researchers per lakh labour force for the last decade or more. But we are really comparing apples and oranges here. Indian science has reached where it is now through 70 years of struggle; as India worked on building indigenous infrastructure, as we reeled under sanctions by international communities and as we learned to live in a globalised economy. The priorities for Indian science and the mandates for the scientific community have been changing as the India has grown and matured. The goal posts have been shifting constantly. The goal was never a Nobel Prize, but food self-sufficiency, affordable drugs and low cost satellite launches. And Indian science has met these goals more than admirably. But the work is not done, not even begun.

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For India to be competitive and at par with the scientific enterprise in developed nations, we have to have consistent and generous funding for science. Consistent, predictable funding is the most important component for any enterprise to succeed. Science even more so. Challenging projects need long incubation periods before fruition. Long term commitment to funds means initiation of more such projects. Unpredictable funding makes people risk-averse and small, short term, less gain goals are set and met. This makes us fall back in the longer marathon of large, ambitious discoveries.

Generous funding will come from a nation's realisation that science is important for us as human beings and for us as Indians. Science is the only way we may even begin to solve the problems that humanity as a whole faces and the specific problems of malnutrition and poverty and disease that India faces. These are not new problems; they have been our companions since Independence. A concerted effort by successive governments to jump start the stalling engine of science in India is needed; along with increased funding, increased faith in science and increased trust in scientists.

The India March for Science, which follows and has the support of the international March for Science held across 600 communities in April, is led by such a need. The March should remind us that science is part of our everyday lives. That science is absolutely essential for the survival and prosperity of any human endeavour. That science is important, essential and the without it!

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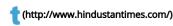
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