

power and development in communication technology. It increases the necessity for faster development of novel, innovative products and/or technology. Many a times the policy-makers and scientists either could not understand or conveniently ignored the bigger picture, as there are not many subject matter experts willing to play the role of a devil's advocate. It seems that exaggerated data fuelled the hype for *Jatropha* based bio-fuel programmes in countries like India⁹. Another recent casualty of over-selling or the culture of hype became clearer when many high-profile players in the pharmaceutical industry dropped their plans and altogether pulled out from the RNA interference research, popularly known as RNAi¹⁰.

Such incidents in both public and private-funded R&D initiatives, even in

developed countries like USA, are not rare now a days, with far-reaching consequences for the company, the country and science itself. Developing countries like India that have fewer resources need to learn from both the successes and mistakes of more successful countries like USA. Ignoring their mistakes will be no less fatal. India needs to prepare itself to adopt the changing world where there will be no science superpower to follow.

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Lack of inspiring teachers

Following upon the points raised by Upadhyaya¹, I wish to draw upon my experience of preferentially recruiting PhD students from the Indian subcontinent into my research group. My interest in doing so is to provide opportunities for at least a few from my country to gain western higher education experience.

Sadly, almost all the students from the Indian subcontinent whom I have managed to recruit to work with me, show the following characteristics rather uniformly: (1) Display no knowledge of basic biology, which I consider extremely vital, although their PhD projects pertain to current ecological questions demanding application of contemporary analytical and computational methods. (2) Lack skills of basic computational and analytical

techniques. (3) Lack reasoning and logical-thinking skills. (4) Show no signs of creativity and originality. (5) Speak and write intolerable English. Western higher education – even at undergraduate level – is driven by self-learning paradigm.

In the 1990s when I was a member of the Life Sciences Programme Advisory Committee, Department of Science and Technology, Government of India, one of the discussions we had was on strengthening research skills. I argued that this needs to be done from the undergraduate level. Sadly, my arguments were pooh-pooed by the then Chairperson of the Committee.

What ails Indian higher education, especially science education, is the severe deficiency of inspiring teachers. I inter-

pret the word 'quality' (sensu Upadhyaya) as 'inspiring'. Persons with no motivation and excitement to teach science occupy positions as teachers in colleges and universities in India. Until this trend continues, I see no salvation to Indian higher education in general and science education in particular.

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The future of geology

Valdiya, writing with his customary flair and acuity, has provided a thought-provoking account of the pathetic condition of our promising geologists, and the health of our national research organizations related to earth sciences and their leadership¹. He has rightly pointed out that the views of specialists are not sought/or are overlooked while undertaking major earth science-related projects in the country, where geology plays a main role.

The presence of the same group of individuals who dominate almost all the decision-making bodies, advisory committees and various science Academies over the years has resulted in the present poor status of geological education and research in the country. In this context, the article by Valdiya is timely and deserves serious consideration and re-thinking. If corrective steps are not taken the future of geology which plays an

important role in our national development will be bleak.

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