economic value of soil microbial diversity is estimated to be 'at least many tens of billions of US dollars'[4]. Despite its enormous economic importance, the life in soil is still under-valued and often neglected in biodiversity debates. There is a growing concern that the invisible soil biota, which is the 'root' of a healthy soil and healthy plants and animals is losing its genetic and functional diversity due to imbalanced fertilization, injudicious use of pesticides, unabated soil pollution and negligible or no replenishment of organic residues[5,6]. Many microbes live symbiotically with higher organisms. Every plant and animal that becomes extinct is likely to take several species of microorganisms with it. The significance of extinction of soil organisms may be catastrophic, as stated by Curtis[7]: 'if the last blue whale choked to death on the last panda, it would be disastrous but not the end of the world. But if we accidentally poisoned the last two species of ammonia-oxidizers, that would be another matter. It could be happening now and we wouldn't even know.' Only by unravelling the life in the soil and linking the cause and effect relationships between the loss of soil biodiversity and the impact on terrestrial and global ecosystem processes, can we begin to conserve and better utilize its life-sustaining services. There is an urgent need to save and promote the life in soil; otherwise, future generations will have to pay the greatest price for this damage.

1. Heywood, V. H. (ed.), *The Global Biodiversity Assessment*, United Nations Environmental Programme, Cambridge University Press, Cambridge, 1995, pp. xi + 1140.
2. Miller, S. K., *New Sci.*, 1992, **135**, 7.
3. Holmes, B., *New Sci.*, 1996, **149**, 26.
4. Pimental, D. *et al.*, *BioScience*, 1997, **47**, 747–757.
5. Patra, A. K. *et al.*, *Ecol. Monogr*., 2005, **75**, 65–80.
6. Rao, D. L. N. and Patra, A. K., *J. Indian Soc. Soil Sci*., 2009, **57**, 513–530.
7. Curtis, T., *Nature Rev. Microbiol*., 2006, **4**, 488.

ASHOK K. PATRA

Division of Soil Science and Agricultural Chemistry,
Indian Agricultural Research Institute,
New Delhi 110 012, India
e-mail: patraak@gmail.com

On the tragedy of geology and geologists

The article by Valdiya[1] entitled 'The tragedy of being a geologist' is thought-provoking. The article was received by *Current Science* on 11 November 2011 and accepted on 16 November 2011. Not many geologists in India are as lucky as Valdiya for such a swift publication. The lament is not so much that of a geologist as that of Valdiya himself. *Current Science* has published a bold but strange article which emphasizes the plight of geologists but also includes many figures/diagrams from other publications. Valdiya's account on the plea of the geologists raises a mixed reaction. The article laced with several figures is a strong pointer which discusses important issues like the role of geologists in exploring the natural resources and their plight as a scientist. Altogether, he has written a brief account lamenting over the government bodies, associations and institutes for sidelining geologists and has criticized the administrative bodies of these organizations.

Valdiya, an academician has been associated with institutions like Kumaon University, Lucknow University and currently with the Jawaharlal Nehru Centre for Advanced Scientific Research. He is a geologist who has undoubtedly helped in the traverse mapping of the Himalayas. However, the points articulated in his writing indicate the opinion of one and may not represent that of the majority. He points out that the major geological institutions are headed/guided by non-geologists, for example, Geological Survey of India, the premier organization was headed by non-geologists for many years, is sternly guided by IAS in Ministry of Mines, a national Institute of Geology of Himalayas has been functioning for the last five years under the Chairmanship of Secretary to Government of India, a chemist specialized in leather technology and the Director is a micropalaeontologist. But during such appointments the geological community did not protest or demand a change. For instance, Wadia Institute of Himalayan Geology, Dehradun some years ago was headed by a geophysicist, and not someone with basic experience in Himalayan geology. Valdiya fails to mention anything about this and others in his article, but laments the fact that the micropalaeontologist heading the Institute now is a summer monsoon specialist.

Out of the several points raised by Valdiya, deep drilling is an activity which needs considerable expertise and immediate attention. Secondly, his writing is commendable for highlighting the plight of geologists who spend most of their time in the fields and the hardships faced by geologists who work in rough terrains or adverse weather conditions. But I feel that the article should have either discussed the plight of the geologists or could have been an account on natural resources. It criticizes the existing system and is a less elaborate account on natural resources or the role played by the geologists in their exploration.

I extend my appreciation to *Current Science* for publishing this article which has given an opportunity to discuss issues of prime importance. Valdiya's efforts are laudable for writing a provocative piece which may help address a few of these issues.

1. Valdiya, K. S., *Curr. Sci.*, 2012, **102**, 581–589.

A. K. PACHAURI

Former Professor at Earth Sciences,
Indian Institute of Technology Roorkee
e-mail: pachauri1945@yahoo.com