

Environmentalism and case-study science

Some unfortunate statements were made by Thatte and Pandit¹ recently, with regard to environmental activists. I quote: 'Now only the very naive believe that all this opposition is driven purely by a love for the environment ... the scientific community needs to be aware of the existence of trans-scientific dimensions of opposition to ILR' (interlinking of rivers).

While this wording is dense and round-about, it points to a state of mind that has been around for at least three decades, and which permeates Government thinking. Most of us who do research in ecology or wildlife biology, and are involved with conservation issues, have had it flung at us at periodic intervals. I personally encountered it as far back as in 1976, when colleagues objected to timber-felling by a tea company within a wildlife sanctuary. More followed when we objected to two dams on ecological grounds within the Kalakad-Mundanthurai Tiger Reserve. I had dubious characters from the Government visit me in the dead of night, to ask me who was paying me to object to these developments for the national good. (In this case better sense prevailed, and these dams were dropped.) For the most part though, any objection to any large development project is muted because of the fear that pending proposals or research permissions might get rejected. Whether this actually happens or not is moot.

The reason that this sort of finger-pointing works is because we have fallen prey to case-study science. I define case-study science as reaching conclusions and making recommendations based on a very small sample size, even $n = 1$. These samples usually also get wide press publicity, but no analysis is presented in peer-reviewed journals.

Even well-known academics have fallen into the case-study science trap. I illustrate this below with an example from the proposed Tribal Bill.

I quote: 'There are three main streams of thought regarding this issue. Some experts say that tribal communities have lived in forests for centuries, and granting them the formal right over forest land is just undoing a historical injustice. On the other extreme, some conservationists say that certain species of animals (such as the tiger) cannot co-exist with humans, and there is a need to reserve at least some parts of forests to conserve these species. They also say that increased

human habitation in forests will cause depletion of forest cover, resulting in significant ecological costs. A third view is that traditional forest-dwellers help in preserving forests, and giving them land rights would actually help in ecological conservation ... However, there does not appear to be any clear evidence to conclusively support any of these views.'²

In response to the first point, there should be historical data to substantiate it, rather than a blanket statement being quoted by the proponents of the Bill. How many tribal communities? What was the nature of this injustice? Was it only the Forest Act that caused this injustice or did these injustices involve other factors? Where tribals owned land, were they still exploited by locals? Many other issues that are amenable to data collection and analysis occur to me, but by and large the support for this viewpoint remains subjective³.

In response to the second point, there is definitely enough research that has been done to demonstrate it scientifically. It has to be compiled by professionals, and not by a Government-appointed committee consisting almost entirely of non-scientists, where all the major opinions were known even before the committee met for the first time. This was the case with the Tiger Task Force. Outcome: to save the tigers, hand over the forests to the tribals!

The third issue raised is case-study science at its best. Actual numbers can be collected to demonstrate how common this protection by tribals is. Also conveniently ignored in the debate is the concept of population density or rate of increase. Sustainable use a decade ago may no longer be so, because of the increased population pressure.

Many of these drawbacks have been recognized⁴ but data are still missing.

The tendency is, of course, far more widespread than this. Somebody visits a grass plantation in Haryana and this becomes the model for community participatory management all over India⁵. A species of *Eucalyptus* being shown as harmful in a pocket in Karnataka⁶ has led to whipping-up of hysteria against the genus as a whole all over the country. A specific instance of water conservation in Rajasthan⁷ is now touted as an all-India model. Blanket prescriptions concerning a bird species that is threatened in Maha-

rashtra have led to it being even more threatened in the Andamans⁸.

I conclude with the original point raised by Thatte and Pandit¹. This is with regards to opposition to the ILR. I have two brief points to make. First, at least one economic analysis shows that the costs of pumping water uphill will make the project unviable⁹. Secondly, plant and animal species that are deleterious to both environment and human well-being may be transmitted along these channels¹⁰. Surely, it is not unreasonable to have the necessary studies done by independent bodies, before lakhs of crores of rupees are spent.

The debate on whether projects or laws are environmentally damaging, or whether environmental projects themselves cause unintended consequences, needs to be buttressed with data, and not just opinions on the pages of social-science journals. We need to go beyond case-study science.

1. Thatte, C. D. and Pandit, C., *Curr. Sci.*, 2006, **91**, 260–261.
2. Sanyal, K., STs (Recognition of forest rights) Bill, India together legislative brief, 15 April 2006, <http://www.india-together.org/2006/apr/law-forest.htm>
3. Sarin, M., *Econ. Political Wkly*, 21 May 2005.
4. Madhusudhan, M. D., *Econ. Political Wkly*, 19 November 2005.
5. <http://www.rainwaterharvesting.org/Rural/Sukhomajri.htm>
6. Shiva, V. and Bandyopadhyay, J., *Ecologist*, 1983, **13**, 184–187.
7. <http://www.tarunbharatsangh.org/about/abouttbs.htm>
8. A report of exploitation at Vengurla led to the placing of the edible nest swiftlet on Schedule I of the Wildlife Act, banning the use of its 'products'. However, the entire conservation strategy for it involves farming for nests – see Sankaran, R., *Biol. Conserv.*, 2001, **97**, 305–318.
9. Pelkey, N., *The Hindu Survey of the Environment*, 2003.
10. For instance, North Indian carp is known to have affected inland fisheries adversely in the south.

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