

Ethics in research: still a long way to go

I read with interest the Guest Editorial by Mukhi¹ that highlighted the significance of ethics in Indian scientific research. Ethics in both science and social science research is an important concern these days owing to the increased number of predatory journals, open access publishing, the API requirement for teaching positions in universities and colleges, and the large number of publishers coming into the research arena. In this background, it is crucial to teach research ethics to students and research scholars from the very beginning of their careers. At what stage should they be taught about ethics is a critical question to be answered. Teaching departments, especially in social science disciplines teach papers in research methodology to their undergraduate students, but ethics is rarely part of the curriculum. Then who will ensure that ethics is being followed – researchers, supervisors, institutions where the research is being carried out, or publishers? To deal with this situation, it is important to prepare future

researchers much in advance through refresher courses and seminars so that they can understand the importance of ethics in conducting and publishing research. Introduction of research ethics into the mandatory coursework curriculum for doctoral students is also important.

Moreover, our university websites do not provide detailed information on ethical policies and committees while many universities in other parts of the world have this information prominently visible in their websites², and respond to queries of prospective students as well. It is important for university websites in India to carry information about ethical issues in research, guidelines to be followed, ethical committees and their constitution, and so on. The role of journals and publishers with regard to academic practice also needs to be recognized. Unlike journals of international repute, many Indian journals do not ask for prior ethical approval for research papers to be published. Policies on ethics, malpractice, misuse of data, authorship, plagiarism,

duplicate publication and self-citation must be clearly stated by all journals, including this one. Similarly, funding agencies can implement the following steps to encourage researchers to adhere to the highest ethical standards: prior ethical approval for all the submitted research projects and establishment of clear guidelines on ethics, especially in social science research and publication. We still have a long way to go as far as ethics in research is concerned, but the above few steps suggested would provide researchers with the necessary information on the issue.

1. Mukhi, S., *Curr. Sci.*, 2016, **110**(6), 955–956.
2. <http://research-compliance.umich.edu/>

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Ethnopedology: an ancient way to better comprehend modern soil science

Historically soils have been classified according to their appearance and characteristics. The Chinese textbook, *Yugond* (2500 BC) is probably the first ever on soil classification; indeed, it provided an effective and interpretative classification. Dokuchaev and others used vernacular soils like *chernozem*, *solonetz* and *gley* as central concepts for scientific classification. Vernacular soil names have been used throughout history and helped provide the basis of scientific classification¹. Folk soil taxonomies were characterized, developed, refined and used generation after generation through time-tested trials and errors. Basically, indigenous wisdom which farmers have acquired and preserved over time has repeatedly been ignored rather than streamlined. Scientific systems and detailed soil mapping have already replaced folk taxonomies, especially in the more developed countries^{1,2}.

Developing countries follow the same path as scientific practices are gradually dominating over farmers' indigenous practices and eventually farmers are forced to adopt modern scientific practices. Consequently, environmental deterioration is taking place as maximum modern practices emphasize more on productivity than sustainability. Moreover, ignoring 'time-tested age-old knowledge' of farmers leads to inappropriate harness of the hidden treasures. Hence, ethnopedology is re-examined for understanding sustenance of soil fertility by making research findings more comprehensible to local farmers, especially in relation to changing cultural landscape, particularly in developmental contexts.

Ethnopedology implies a systematic classification and management of soils by indigenous folks. It focuses on cultural definition of soils from an anthropological perspective, besides the perspective

of soil science. It tends to rely upon value and management of soil; local adaptation, renewal and transformation strategies of soil properties and land qualities; co-validation of ethnopedological knowledges, abilities and skills with modern soil science, geopedological survey, agroecological strategies, etc. Thus, ethnopedology simply focuses on how people understand, view and manage land. So ethnopedological studies mostly concentrate on three main domains regarding the social theories of soil and land resources, namely the symbolic (Kosmos), the cognitive (Corpus) and the management (Praxis) dimensions, which form the K–C–P complex or the ethnoecological model³. This notion of classifying soil according to social criteria rather than physical and chemical criteria is favoured by national and international soil surveys such as USDA⁴ and World Reference Base^{5,6}.