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Special section: Georeferenced soil information system for agricultural land use planning

Organized information on soils and land use has always been regarded as a base for sound agricultural planning. This information on soil and land resources (SIS) forms the basis for storing soil and land databases for implementation and monitoring various efforts on land resource management. In view of huge demands on natural resources like soil and water with special reference to the environment and its protection, there is a need for better information on spatial variation and trends in the conditions of soils and landscapes. Since modern-day information system of any natural source requires its physical location in terms of space, exact referencing of important spots has become necessary. The geographic information system (GIS) for georeferencing soil information system (GeoSIS) was developed to meet this need. Since India is a large country, it was decided to restrict the study to the Indo-Gangetic Plains (IGP) and the black soil regions (BSR), for brevity. The GeoSIS, SOTER (Soil and Digital Database), land evaluation methods, pedotransfer functions, revised soil maps of the IGP and BSR and revised agroecological subregion maps of the IGP and BSR were the main output of the National Agricultural Innovative Project (NAIP) sponsored effort on 'Georeferenced soil information system for land use planning and monitoring soil and land quality for agriculture'.

The first article (Bhattacharyya *et al.*) shows the rationale behind the development of GeoSIS and assessment of the database generated. Chandran *et al.* detail the SOTER (soil and terrain) database. Soil physical properties and use of pedotransfer functions are explained in the next three articles by Tiwary *et al.*, Raychaudhuri *et al.* and Patil *et al.* respectively. Use of soil parameters to derive soil and land quality and their

impact are discussed by Ray *et al.* and Sidhu *et al.* Land evaluation methods, including crop model to arrive at minimum datasets are assessed by Chatterji *et al.* and Venugopalan *et al.* Soil information system in the IGP and BSR includes detailed soil horizon-wise database on soil microbiological properties, as discussed by Velmourougane *et al.* and Srivastava *et al.* Mandal *et al.* detail the revised soil and agroecological subregions maps of the IGP and BSR. The last article on WEB GeoSIS by Bhattacharyya *et al.* indicates broad areas of GeoSIS application and the way forward.

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Training in scientific writing

Good scientific writing is a learned art that involves nuances of its own. These nuances include the crafting of honed sentences devoid of ambiguous

jargon; a streamlined sentence flow moulded by the inertia of well knitted logic; and unequivocal clarity. Furthermore, the writing process whets the infant researcher's scientific temper. It allows him to think rigorously through his proofs, and being the only proxy for his research, demands that he be precise while expressing his ideas. *Every word must hold fort in the face of the reasoned scepticism that defines the scientific endeavour.*

Considering such a premium on scientific writing, it is surprising to note, however, that only a few researchers are confident about their writing skills. Most others, particularly young researchers and students, find themselves rather ill-equipped. But why? First, researchers belonging to different linguistic tribes often struggle to write in English. Second, there is a dearth of scientific writing courses in the university curricula around the world. Third, the mentor, instead of guiding his students through the writing process, often ends up writing significant chunks of his student's paper himself. And fourth, owing to the prevalent practice of papers written in collaboration, the learning experience of each collaborator is diluted – confined to only those sections he writes. The writing on the wall could not be more explicit: at present, the 'graduate-level training in scientific writing is inadequate'.

A General Article (page 1386), delineates other similar problems which hinder the inculcation of good writing practices. In this study, surveys are conducted to understand the sentiments of young researchers when confronted with the task of scientific writing. Such surveys, the article reports, could also be used to develop educational models – the Scandinavian thesis model, for example – to aid researchers become better writers.

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