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## Soil quality assessment for rice crop using GIS

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Studying soil quality is about site-specific decision-making for land management rather than general land use assessment. Rice is the most important crop in India and soil quality assessment is required to increase the productivity and sustainability of rice crop. Soil quality assessment can be done by means of suitable indicators. The indicators can be based on physical, chemical and biological properties, processes or characteristics of soils. They indicate relationships between specific soil properties and soil quality. The soil physical properties include soil type, soil depth, soil erosion status, soil drainage and soil slope. This paper presents a framework for assessment of soil quality based on the soil physical properties. Nalgonda district of Telangana state was selected for this study. Independent soil layers were created for the above five physical parameters. A quality indicator based on a quality rating has been assigned to each soil attribute for assessing soil quality suitable to rice crop. By using the spatial analysis tool of ARCGIS, Soil quality index map was generated for Nalgonda district. This procedure will be further validated and extended to other rice growing areas.

### Biography

B Sailaja has completed her PhD from Birla Institute of Technology, Mesra, Ranchi, India and has been working as Scientist in Computer Applications in Agriculture with Directorate of Rice Research (ICAR), Hyderabad. She has 15 years experience in applying information technology tools to Rice Research in India. She has developed information systems ([www.aicrip-intranet.in](http://www.aicrip-intranet.in)), expert system and decision support system by integrating spatial technologies and crop models for rice management.

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