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Geospatial techniques for identifying the paddy cultivated areas of agro-climatic region-VI of India

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A great challenge for India is to feed 130 crores of people with the existing natural resources. Present cropping pattern plays significant role to cater the need of food demand. Agro-Climatic Region-VI comprising Punjab, Haryana falls under the most progressive agricultural region of the country for ushering the green revolution in Indian agriculture. Delineating crop coverage, planning for better productivity is the need based approach to handle the agricultural scenario. Geo spatial techniques are emerged as the advanced tools identify the location specific information for regional planning purposes. In this paper, paddy cultivated areas were delineated through integration of remote sensing and geographic information system. Three processes were followed for identifying the paddy areas. They are (1) to map the paddy area through satellite remote sensing analysis using Landsat ETM+ images (2) to identify the suitability of the area under paddy cover through GIS analysis and (3) to quantitatively compare the paddy cultivated area between the analysis result and reference data. It was observed that paddy area of 3.6 million ha were delineated under Agro climatic Region-VI, comprising Punjab, Haryana and two districts of Rajasthan (Sri Ganganagar and Hanumangarh). Out of total rice area, 2.6 and 1.05 million ha is covered in Punjab and Haryana respectively. The analyzed results were compared against the paddy areas from departmental records of respective states. There was good agreement between the estimated and observed data. Hence the developed methodology could be adopted and replicated to other regions.

Biography

Ranu Rani Sethi graduated in Agricultural Engineering from Odisha University of Agriculture and Technology, (OUAT) Bhubaneswar, Odisha, completed MTech in Water Resources Development and Management from Indian Institute of Technology, Kharagpur and PhD from Gautam Buddha Technical University, Lucknow. At present, she is working as a Scientist (Senior Scale) at Directorate of Water Management, Bhubaneswar since 2000. She was awarded as a Junior Professional Research Fellow (JRPF) by International Water Management Institute (IWMI). She has published more than 35 research papers in referred national and international journals. She has visited Kathmandu and University of Melbourne for attending the official program.

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