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# Soil and Land-Use Distribution over a Part of the Indo-Gangetic Plain (N. India) Deduced from the Optical Interpretation of Landsat-2 Multispectral Imagery

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SOIL AND LAND-USE DISTRIBUTION OVER A  
PART OF THE INDO-GANGETIC PLAIN (N. INDIA)  
DEDUCED FROM THE OPTICAL INTERPRETATION  
OF LANDSAT-2 MULTISPECTRAL IMAGERY

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The objective of this study was to compare and to correlate ground observations, gathered over the area, with 10 Landsat scenes and to prepare soil and land-use distribution maps of a complex landscape, located between  $73^{\circ}50'$  and  $79^{\circ}50'E$  longitude and  $26^{\circ}10'$  and  $31^{\circ}16'N$  latitude. The problems of the area are related to soil, land-use and water management planning, erosion, salinity-alkalinity, drought, levelling, high water table, inadequate drainage, etc.

In this study all multispectral color composites, prepared either from positive band 4, 5 and 6 or 7, or from negative, contrast enhanced, band 5 and 7, were projected on a blank map (scale: 1/500.000). Areas homogeneous in color or pattern were delineated and identified, based on a generalized interpretation key and by comparison with ground information. The composites yield good pictures of drainage pattern, geomorphic features and major landforms which are helpful to recognize soil boundaries associated with climate and vegetal change, soil parent materials, topographic change and landscape units. A good correlation was found between major landforms discerned on the imagery and major soil units. In developing countries where soil maps at the scale of 1/500.000 or 1/1.000.000 are incomplete or existing maps require revision, synoptic satellite imagery may be beneficial for long term and short term soil and water management projects.