

Development of Soil and Terrain Information System in Parts of Sikkim

Year of Starting: 2000

Year of Completion: 2002.

Funding Agency & Funds Received : Defense Terrain Research Laboratory, Govt. of India.

Objectives:

- To develop soil and terrain information system in parts of Sikkim using Remote Sensing and GIS.
- To prepare various thematic layers on 1:50,000 scale.
- To integrate various thematic layers for generating landslide hazard zonation and landslide management maps.

Study Area : The study area is located between Melli Bazar and Lachung/Lachen in parts of Sikkim state i.e. 7 km. either side of national highway.

Data Used :

- SOI topographical map sheet no. 78A/7, 78A/8, 78A/9, 78A/10, 78A/11, 78A/12, 78A/14 and 78A/15 on 1:50,000 scale. IRS-1C, LISS-III geocoded FCCs of Sept., 2000 and Feb., 2001 period and IRS-1C, PAN data of Feb., 2001 merged product of PAN & LISS-III for Chungthang area.
- Collateral data.

Salient Results : Various thematic layers of lithology, geomorphology, lineament, fault, landslide, rock weathering, dip-slope relation, soil texture, soil depth, slope, slope morphology, slope aspect, landuse/land cover, anthropogenic factor and base features have been prepared through the visual interpretation of satellite data in conjunction with SOI topographical maps. GIS database of different thematic layers has been generated by digitizing, vectorizing, editing and projecting various thematic layers. LHZ and landslide hazard management maps have been generated on 1:50,000 scale using Decision Space Software Package. Fly of the Chungthang area and PAN merged LISS-III data showing Lentakhola, Manul, Miyang Chhu & Richhu landslides have been generated.

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