

Critical Gaps and Recommendations

This review of the studies on landslides carried out so far in the Sikkim Himalaya has revealed that there is an urgent need for focused investigations to fill gaps with respect to certain critical aspects of landslide investigations.

It is recommended that top priority needs to be given to implement the following:

1. *Preparation of large-scale (1: 500 to 1: 1000) topographic maps for slopes in Gangtok and other areas in Eastern District with known history of mass movements. The contour interval should be 2 m to 5 m.*
2. *Preparation of large-scale geomorphology maps (1: 500 to 1: 1000) for slopes in Gangtok and other areas in Eastern District with known history of mass movements.*
3. *Setting up of a net work of automatic rain gauges on slopes in Gangtok City and other areas in Eastern District with known history of mass movements.*

This would help in the preparation of inventory of all landslides occurring every year in East, South and West districts of Sikkim. This would also require training of manpower for gathering details in a standard proforma sheet designed for the purpose. Exact location in terms of longitude and latitude can be determined through the use of GPS.

4. *Preparation of overburden maps giving depth to hard rock and fluctuation of subsurface water level on slopes in Gangtok and other areas in East District with known history of mass movements. The large-scale topographic maps will form the base for such work.*
5. *Planning and execution of detailed geotechnical investigations of major known landslides in Gangtok City and other areas in East. District. These investigations both in the field and laboratory need to be designed carefully under supervision of geotechnical experts.*

