4

Inventory of Landslides in Sikkim

Information on landslides in Sikkim has been reviewed from previous published and unpublished work related to field geological survey, geomorphic mapping, landslide zonation studies, and geotechnical investigation of actual landslides. The out come of this critical review has resulted in an inventory of landslides (see Table 4.1).

The scope of different studies reviewed varied in terms of emphasis. However in most of the reports/ publications the following aspects were covered:

1. Name of slide / location	Usually named after a locality or a milestone. However exact location is generally not specified in terms of long. and lat. and thus values shown in the inventory need to be corrected.
2. Physiographic Zone	The slide has been placed in relevant zone by us as per the scheme discussed in this report.
3. Geomorphic Characteristics	Information in respect of geometry, area covered,, affected slope and aspect was sought for each landslide. Every publication / report did not contain information on all the aspects.
4. Geologic province and rock type	In most cases only the regional litho-unit within which the landslide is located has been listed. Specific details of site geology are usually lacking.
5. Type of Material / regolith	Surface characteristics of regolith are usually reported. No information on degree/depth of weathering is available.
6. Nature of Mass Movement	Descriptive nature of the mass movement is generally reported, however, the type of movement has not been classified as per the internationally accepted terminology.
7. Structural attributes	In most cases regional joint/ bedding /foliation patterns have been reported. Specific details in respect of the mass involved in the slide are lacking.
8. Causative factors	Overwhelmingly " heavy precipitation" and " cloud bursts" are cited as the trigger. However in no case any information on rainfall data from a rain gauge in close vicinity is actually reported. In most cases no rain gauge site is close enough to provide representative data.

Based on the information cited in the inventory, landslide incidence in the state is controlled primarily by precipitation pattern, lithology, and tectonic framework of the region. Maximum number of slides have been recorded in Daling formation of Lesser