Target Groups

The training course should be focussed on the following five target groups.

1. Engineers and geoscientists directly involved in the study, mitigation, monitoring, and control of landslides affecting important infrastructures
2. Junior technicians involved in landslide study and management
3. Planners, decision-makers, politicians, media, and other agencies involved in landslides and related disaster management
4. Villagers and volunteers at the grassroots' level directly affected by landslides and related problems

The training programmes should be conducted first by implementing pilot training programmes for qualified personnel (i.e., engineers and geoscientists), junior technicians, and villagers. There should be a sound evaluation mechanism for trainees as well as trainers to improve the training programme in the future. Planners, decision-makers, politicians, and persons from the mass media should be involved in the workshops and seminars. A short description of the programme for each target group is given below.

Target Group 1: Implementation of from four to six weeks' training programmes for qualified personnel (engineers and geologists), with classroom lectures, seminars, laboratory work, and field work for one week. At the end of the programme, the trainees should submit a project assignment.

Target Group 2: Organisation of from three to four weeks' training programmes for junior technicians, with classroom lectures, seminars, laboratory work, and field visits

Target Group 3: Organisation of one week-long on-the-spot workshops, seminars, and training programmes for grassroots' level persons responsible for the management of landslide disasters (e.g, school teachers, local-level NGOs, and members of district and village development committees).

Target Group 4: Organisation of from three- to four-day workshops for planners, decision-makers, politicians, media representatives, and other agencies involved in landslides and related disaster management.

Currently, the Central Department of Geology and Institute of Engineering, both under Tribhuvan University, teach engineering geology within the framework of the Master of Science (M.Sc) (Geology) and Bachelor of Engineering (B.E.) curricula, respectively. The engineering geology courses are given in the Annex.

Conclusions and Recommendations

Landslides and related mass-movement phenomena are very common in Nepal and are also among the most common natural hazards. Every year, they cause heavy losses of life and property. They also damage the natural environment. Landslides often occur during the monsoon season, but some large landslides also occur at other times.

In Nepal, landslide studies are carried out by various organisations and research groups. The methods and details of landslide studies vary widely. Most of the studies are of the inventory type, a few of them deal with the hazard itself, and there are hardly any studies on risk assessment. There is no organisation responsible for landslide hazard mapping, mitigation, and control. Generally, all the efforts are concentrated after the disaster and very often the efforts are confined to easily accessible areas.

To minimise the adverse effects of landslides and related mass movements in the future, it is necessary to identify and study the hazardous areas of the country by integrating knowledge and information from various disciplines, such as geology, geomorphology, geophysics, engineering, meteorology, and hydrology, and to formulate plans and programmes for implementation.

Instead of the current unplanned and scattered studies on landslides, there should be systematic landslide studies and hazard mapping in the country. Initially, the study should focus on the most vulnerable areas. Existing laws and institutional capabilities for landslide hazard mitigation and control should also be strengthened. There should be good coordination among the organisations and institutions involved in landslide study, monitoring, mitigation, and control.

Government and non-government organisations should formulate programmes to educate and create awareness in the hill communities about natural hazards. In this respect, the mass media can play an important role. The role of the media is also vital for early warning about hazards.

This study shows that most engineers, other technical personnel of the country, and hill communities are not aware of landslide hazards and, hence, the infrastructures and settlements often suffer from disasters. Therefore, it is recommended that proper training and awareness programmes be conducted for those directly dealing with landslides and related mass movements. At the same time, research activities on landslides should be intensified.