

Session Six: Presentations on Recommendations on Priorities for the Regional Collaborative Training Programme by the Three Working Groups

The Chairperson for this session was **Professor A. Herrmann**. The presentations in this session were made by the chairpersons of the three working groups after extensive discussions in each group.

Presentation by Group I on an Inventory Database (Including Socioeconomic Aspects and Institutional Collaboration (at National, Regional and International Levels)

Professor Qasim Jan, Chairperson of Group I, presented the recommendation on "Inventory Database (including socioeconomic aspects and institutional collaboration at national, regional, and international levels)". The presentation given by this group is presented in Box 4.

After the presentation, there were discussions on the recommendations. It was queried whether the government should provide the aerial photographs and topographic maps to the focal point after identification of the focal point. It was suggested that the government can easily provide small-scale photographs (1:25000). It was also suggested that the selected focal points should make the citizens aware. It was stated that, in the case of Pakistan, most of the areas are unsurveyed. One of the participants requested use of the database format already developed by international experts and used in some offices of Nepal. Finally, the chairman remarked that not only the aerial photographs, but any kind of data are difficult to access. So, the regional working group should think about this. The government is responsible for data, but an individual taking part in this type of programme will receive the benefit from another country's data.

Box 4 : Presentation by Group I

1. Definition of 'Landslide': To be broadly defined, Varnes 1978 was cited as a possible definition. The Group decided not to include soil erosion in this definition.
The landslide classification to be based on three base widths
 - a. Landslides with base widths greater than 50m
 - b. Landslides with base widths of 10-50m
 - c. Landslides with base widths less than 10m
2. Important information for the Inventory/Database
 - a. For mega-scale:
 - Location
 - Size
 - Possible Causes
 - Triggering Phenomena
 - Rainfall
 - Seismicity
 - Damage: Socioeconomic
 - Source of Information
 - Date/history
 - b. For regional scale:
 - Geology
 - Lithology and structure
 - Slope/relief
 - Hydrogeological
 - Seismicity
 - Rainfall data
 - Water conditions
 - Land use
 - Vegetation cover
 - c. For detailed map
 - Geology
 - Topography including slope profile
 - Groundwater conditions
 - Surface water conditions
 - Anthropogenic - Settlement

Presentation by Group II on 'Processes, Tools and Techniques (Both Diagnostic and Remedial Conventional/Modern)

Dr. Renger, the chairperson of Group II, presented the recommendations of the working group. The presentation made by this group is summarised in Box 5.

Some of the participants enquired whether soil scientists were also included in the target group or not. It was clarified that they were not a priority group as usually soil scientists were trained under an agricultural department and were more concerned with productivity aspects of the soil than landslide studies.

Box 5: Presentation by Group II

1. Landslide definition: wide preferred
2. Support of proposed programme
General remarks:
 - Target group
 - civil engineers, geologists (geotechnical background)
 - period of course - post monsoon
 - include experience of participants' presentation + discussions
3. Content of subjects in general
 - not educational curriculum, in general focus on relevance for landslides more in example form than systematic
 - good state-of-the-art reports with ample reference for further studies

Specific comments

Ch 1: More geology (by differentiation)

Structural, Engineering geology, Rock mechanics

Ch 3 - Quick inventory techniques

- GIS + RS only some examples showing possibilities and limitations
- Parameter mapping

Ch7 - Discuss use of existing hazard zonation maps

- 7.2 - Fluvial processes + protection techniques, embankments etc,
- 7.3 - Include surface protection with shotcrete
- 7.4 - Include this section in 7.1

Special course for landslide hazard zonation mapping on regional scales

- RS techniques
- GIS techniques
- good data set are available

target groups

- geoscientists
- geotechnical engineers
- planners

resource group-

- planners
- economists
- cartographers

Presentation by Group III on Curricula and Training Materials (Professional/Technician Levels)

The third recommendation on behalf of Group III was presented, by **Professor Li Tianchi**. The presentation is summarised in Box 6.

It was suggested that stereographic analysis be included. Four types of target group, i.e., planners, professionals, junior technicians, and farmer were suggested. Suggestions about the number of participants (not more than 20) were given. Some of the participants suggested the inclusion of hazard and risk only and deletion of the assessment process. It was explained that assessment of a landslide dam is a very complex and tough topic and its investigation is almost impossible; therefore, this topic should not be given a separate chapter. The importance of the geophysical method of investigation was also discussed. The effectiveness of the geophysical method was discussed in detail with examples.

Finally, the chairman remarked that water quality analysis was important in identifying the failure phenomenon. The chairman also requested the working group to work together in close collaboration with IDNDR activities in the Region .

The chairman of Group III, Professor Li Tianchi, promised to incorporate the comments of the participants in recording the session. Other members of the group included N. Awan, M. Banskota, S. R. Chalise, M. R. Dhital, A. Herrmann, G. S. Pokhrel, T. S. Tun, and B. D. Shrestha

The group comments would be incorporated when finalising the guidelines. ICIMOD was also interested in coordinating different focal points and building their capacities.

It was requested that recommendation be sent to each government and that they should be requested to nominate autonomous organisations to act as focal points for each participating country.

Box 6: Presentation By Group III

1. The group discussed the following topics
 - Definition of a landslide
 - Curriculum/training material
2. The UN definition of a landslide was recommended to be appropriate to follow
3. The group discussed the availability of formal training programmes in different countries and it was found that no such programmes existed in most of the countries, apart from China
4. The proposed training curriculum outline for Middle-level Professionals was found to be appropriate. The following changes in the outline were recommended:
 - a) Introduction of the Hindu Kush-Himalayan Region in Chapter I
 - b) Rearrange the content of Chapter 2
 - 2.1 Definition
 - 2.2 General dynamics of lab process
 - 2.3 Landslide types and classification
 - c) Chapter 3: Include "Stereographic Analysis"
 - d) Chapter 4: Include Definition of Hazard and Risk
 - e) Chapter 5:- Delete "Underground Temperature Survey"
 - Spell out seismic refraction and electric resistivity survey under 5.3
 - f) Chapter 6: Include "rock slide" analysis, back analysis

Other Target Groups

5. The group recommended that training programmes should be developed and implemented also for the following target groups
 - Managers, decision-makers, policy-makers
 - Junior technician level
 - Farmer level
6. Focal Institutions
 - a) The group emphasised the need for focal institutions in each country
 - b) ICIMOD should act as a regional focal institution
7. The group strongly urged the integration of landslide studies into academic curricula
8. International collaboration