
A P P E N D I X

APPENDIX I

CHECK-LIST OF THE IDENTIFICATION OF LANDSLIDE PRONE AREAS

Locality : Jalapahar Road, near St. Paul's School Gate.

Name of Observer : S. Lama

Date of Observation : 11.11.1992

I. RELIEF :

| | RATING VALUE | | | |
|--|--------------|-------------|---------------------|---------------|
| | 1 | 2 | 3 | 4 |
| a) Valley depth : | Small... | Moderate | 2 Large... | Very Large... |
| b) Slope steepness : | Low..... | Moderate | 2 Steep... | Very Large... |
| c) Cliffs : | Absent 1 | | Present..... | |
| d) Height difference between different valleys : | Small... | Moderate | 2 Large... | Very Large... |
| e) Valley side Slope : | Spur 1 | Straight... | Shallow Cave.... | Deep Cave.... |
| f) Slope length : | Small... | Moderate... | Large 3 | Very Large... |

II. DRAINAGE :

| | | | | |
|-----------------------------------|-------------|-------------|-------------|---------------|
| a) Drainage density: | Low..... | Moderate | 2 High.... | Very High.... |
| b) River gradient : | Gentle.. | Moderate | 2 Steep... | Very Steep... |
| c) Slope undercuttings : | None.... | Moderate | 2 Severe.. | Very Severe.. |
| d) Concentrated seepage flow : | Absent..... | | Present 4 | |
| e) Standing water : | Absent 1 | Small..... | Moderate... | High..... |
| f) Recent incision: | Absent... | Small 2 | Moderate... | Large.... |
| g) Pore-water pressure : | Low..... | Moderate... | High 3 | Very High.... |

III. BED ROCK :

| | | | | |
|----------------------------------|---------------|-------------|--------------|---------------|
| a) Jointing density: | Low..... | Moderate... | High 3 | Very High.... |
| b) Amount of dip : | Horizontal... | Small... | Moderate 3 | Large..... |
| c) Strong bed over weak bed : | Absent 1 | | Present..... | |

| | | | | |
|---|-----------------------|----------------|-------------|---------------|
| d) Hardness : | Low..... | Moderate 2 | High.... | Very High.... |
| e) Texture : | Very fine granular... | Fine grained 2 | Medium... | Coarse..... |
| f) Degree of weathering : | None..... | Small..... | Moderate 3 | Large.... |
| g) Compressive strength : | High..... | Moderate... | Low 3 | Very Low..... |
| h) Porosity and Permeability of bed rocks : | Very Low... | Low 2 | Moderate... | High..... |

IV. SOILS :

| | | | | |
|--|------------------|------------------|------------------|---------------|
| a) Site : | Valley floor.... | Gentle Slope.... | Moderate Slope 3 | Steep Slope.. |
| b) Angle of rest : | Low..... | Moderate... | Steep 3 | Very steep... |
| c) Depth : | Small... | Moderate 2 | Large... | Very Large... |
| e) Liquidity index : | Low..... | Moderate 2 | High.... | Very High.... |
| f) Volume expansion : | Low..... | Moderate 2 | High.... | Very High.... |
| g) Organic matter content : | Very High... | High... | Moderate 3 | Low..... |
| h) Permeability : | Low..... | Moderate 2 | High.... | Very High.... |
| i) Coherent bed over incoherent beds : | Absent 1 | | Present..... | |

V. LEGACIES FROM THE PAST :

| | | | | |
|--------------------------------------|-----------|-------------|------------|-----------|
| a) Previous Landslides : | Absent... | Rare 2 | Some.... | Many..... |
| b) Deep weathering : | None.... | Slight..... | Moderate 3 | Much..... |
| c) Fossil solifluction : | Absent 1 | Slight.... | Some.... | Many..... |
| d) Evidence of active soil erosion : | Absent... | Slight.... | Some 3 | Many..... |

VI. MAN MADE FEATURES :

| | | | | | |
|--|-----------------|------------------|---|--------------|--------------------|
| a) Excavation depth: | None..... | Small | 2 | Moderate... | Large.... |
| b) Excavation position : | Hill crest..... | High valley..... | | Low valley 3 | Bottom valley..... |
| c) Reservoir : | Absent.... | Small | 2 | Deep.... | Very deep.... |
| d) Drainage diversion across hill side : | Absent | 1 | | Present..... | |
| e) Cutting of basal support : | Absent | | | Present | 4 |
| f) Loading of upper valley : | None.... | Some..... | | Moderate | 3 Large.... |
| g) Deforestation : | Absent... | Slight.... | | Moderate | 3 High..... |
| h) Root crop cultivation : | Absent | 1 Slight.... | | Moderate... | High..... |
| i) Unscientific constructions : | Absent... | Slight | 2 | Moderate... | High..... |
| j) Unscientific terracing : | Absent... | Slight | 2 | Moderate... | High..... |

Modified from Cooke and Doorncamp 1974, & Sarkar, S. 1990

$$\text{Degree of susceptibility} = 100 \times \frac{\text{Total Rating Values}}{\text{Total Number of Studied items}}$$