

SLOPE

Slope has a scale connotation. It refers to the ground surface configuration for scale that exceeds about 10 m and range upward to the landscape as a whole. Slope has gradient, complexity, length and aspect.

Slope gradient is the inclination of the surface of the land from the horizontal. It is generally measured with a hand level. The difference in elevation between two points is expressed as percentage of the distance between these points. If the difference in elevation is 1 m over a horizontal distance of 100 m, slope gradient is 1%. A slope of 45° is a slope of 100%, because the difference in elevation between two points 100 m apart horizontally is 100 m on a 45° slope.

Slope complexity refers to the surface form on the scale of mapping. Slope complexity has an important influence on the amount and rate of run-off and on sedimentation associated with run-off.

Slope aspect is the direction towards which the surface of the land faces. The direction is expressed as an angle between 0 degree and 360 degrees (measured clockwise from true north) or as a compass point such as east or north- north west. Slope aspects may affect soil temperature, evapo-transpiration and winds received.

Generally with increase in slope of the land, soil is subjected to erosion and the intensity of the erosion depends upon slope percentage. Steep slopes are prone to landslides.

The table showing the slope class, description, area and percentage are given below:

Table: Slope class, description, area and percentage

No.	Slope Class	Description	Area in Ha	Percentage
1	0-3 percent	Very gentle slope	653.93	8.19
2	3-5 percent	Gentle slope	210.93	2.64
3	5-10 percent	Moderately sloping	454.80	5.70
4	10-15 percent	Strongly sloping	3594.75	45.02
5	15-35 percent	Moderately steep to steep	1845.59	23.11
6	> 35 percent	Very steep	1195.31	14.97
7	River		30.36	0.38
Total area			7985.61	100.00

Majority of the area (3594.75 ha, 45.02 % of TGA) comes under the strongly sloping class of 10-15 %. This is major slope class is all micro watersheds except 4V25a. The second major category is moderately steep to steep class with 15-35 % slope. This occurs is 1845.59 ha (23.11 % of TGA). An area of 1195.31 ha (14.97 % of TGA) is having slope more than 35 %, which requires proper management and conservation measures.

The table showing the distribution of slope in the six micro watersheds is given below:

Table: Distribution of slope classes in watersheds

Slope	4V10a	4V11a	4V11b	4V25a	4V26a	4V29b
1	139.61	8.77	54.42	17.32	95.26	338.54
2	28.40			5.39	21.10	155.98
3	18.14	2.57	40.79	17.23	50.34	325.74
4	849.66	102.03	537.34	76.42	673.51	1355.79
5	283.12	20.56	37.77	226.03	523.45	754.67
6	389.59	40.47	55.70	87.21	524.02	98.31
River	14.25	1.19		10.48	4.44	
Total	1722.77	175.59	726.02	440.08	1892.12	3029.03