

ABSTRACT

Report on detailed Soil Survey and land use of Ha3h, Ha3m, Ha3n, Ha3p and Ha3s subwatersheds of Hirakud dam, R.V.P. Catchment in Sambalpur district of Orissa.

1. Survey area : Priority Subwatersheds Ha3h, Ha3m, Ha3n, Ha3p and Ha3s of Hirakud R.V.P. Catchment, distt. Sambalpur (Orissa).
2. Type of Survey : Detailed Soil Survey.
3. Total area Surveyed : 15,465 hectares.
4. Period of Survey : January, 1993 to June 1993.
5. No. of Villages surveyed : 38 villages.
6. Agro climatic Zone : VII - The Eastern Plateau & Hill region
7. Soil Series mapped and their distribution.

Sl. No.	Soil Series	No. of mapping units	Subwatersheds Area (ha)					Total
			Ha3h	Ha3m	Ha3n	Ha3p	Ha3s	
1	2	3	4	5	6	7	8	9
1.	Amra (AR)	2	1416 (9.2)	1046 (6.8)	2324 (15.1)	2375 (15.3)	2388 (15.4)	9549 (61.8)
2.	Baralota (BL)	2	215 (1.4)	162 (1.0)	46 (0.3)	14 (0.1)	102 (0.6)	539 (3.4)
3.	Bathantoli (BT)	1	184 (1.2)	-	56 (0.4)	-	-	240 (1.6)
4.	Dumka (D)	2	81 (0.5)	87 (0.6)	238 (1.6)	203 (1.3)	166 (1.1)	775 (5.1)

1	2	3	4	5	6	7	8	9
5.	Hatia Pa- thar(H)	3	449 (2.9)	617 (4.0)	181 (1.2)	112 (0.7)	105 (0.7)	1464 (9.5)
6.	Lachmipur (L)	2	-	257 (1.6)	303 (1.9)	3 (0.1)	16 (0.1)	579 (3.7)
7.	Maran(MR)	3	146 (0.9)	1005 (6.5)	189 (1.2)	87 (0.6)	209 (1.3)	1636 (10.5)
8.	Techatoli (T)	3	-	192 (1.2)	-	16 (0.1)	148 (1.0)	356 (2.3)
9.	Misc. area Habi., Road, Tank etc.		59 (0.4)	159 (1.0)	38 (0.2)	25 (0.2)	46 (0.3)	327 (2.1)
Total		18	2550 (16.5)	3525 (22.7)	3375 (21.9)	2835 (18.4)	3180 (20.5)	15,465 (100)

Specific Problems in the Survey area :

Sl. No.	Problems	Subwatersheds Area(%)					Total
		Ha3h	Ha3m	Ha3n	Ha3p	Ha3s	
1.	Shallow Soils	1497 (9.8)	1133 (7.3)	2562 (16.6)	2578 (16.6)	2554 (16.5)	10324 (66.8)
2.	Moderate Slopes	81 (0.5)	87 (0.6)	238 (1.6)	203 (1.3)	166 (1.0)	775 (5.0)
3.	Steep to very steep slopes	1416 (9.2)	1046 (6.8)	2324 (15.1)	2375 (15.3)	2388 (15.4)	9549 (61.8)
4.	Moderately eroded area	-	130 (0.8)	33 (0.2)	26 (0.2)	51 (0.4)	240 (1.5)
5.	Severely eroded area	1756 (11.4)	2205 (14.3)	3077 (19.9)	2638 (17.0)	2570 (16.5)	12246 (79.1)
6.	Very severely eroded area	71 (0.4)	60 (0.4)	-	4 (0.1)	-	135 (0.9)
7.	Severely stony & rocky area	1497 (9.7)	1133 (7.4)	2562 (16.7)	2578 (16.6)	2554 (16.5)	10324 (66.9)

Land Capability Classification :

Sl.No.	Land use capability class	Area(ha)	Soil Series
1	2	3	4
1.	II	2359	Baralota, Hathia Pathar, Techatoli
2.	III	240	Maran
3.	IV	2080	Bathantoli, Lachmipur, Maran
4.	V	910	Dumka, Maran
5.	VII	9549	Amra.
Total		15,138	ha.
Misc. Area		327	ha.
Total Area		15,465	ha.

10) Salient Findings :

- 1) The survey area is a part of Agro climatic zone No. VII which is defined as "The Eastern Plateau Hill Region" is spread over in 38 villages.
- 2) In the survey area & soil series with 18 mapping units have been identified and mapped.
- 3) The entire survey area has been grouped into 5 land use capability classes i.e. class II, III, IV, VI and VII
- 4) Good land with minor limitation account for 15.6% of the total area while fairly good land with occasional cultivation and major limitation comprises 13.7% of the area. 67.8% of the area is not suitable for cultivation but it is suitable for pasture and forestry.
- 5) Shallow soils i.e. with depth 10-25 cm. account for 66.8% of the area while deep to very deep soils are spread over is 27.3% of area.
- 6) 80% of the area is severely to very severely eroded.
- 7) 27.4% of area have slight to moderate soil limitation for sustained use under irrigation, while 61.7% of the area is not suited for irrigation.
- 8) 61.8% of the area is hilly with steep slopes.
- 9) Very good to good paddy soil account for 15.2% of the area while 15.8% of the area is fair for paddy cultivation. Rest of the area is poor to unsuitable for the purpose.