

Report on Detailed Soil Survey and Land Use of 4H3B4b1-b9 & 4H3B4c1-c6 Microwatersheds of Subarnarekha Catchment (Non RVP/FPR), P.S. Chaibasa and Jhinkpani, District West Singhbhum, Jharkhand State.

ABSTRACT

1. **Surveyed Area** : Priority Microwatersheds 4H3B4b1-b9 & 4H3B4c1-c6 of Subarnarekha (non RVP/FPR Catchment P.S. Chaibasa and Jhinkpani, District West Singhbhum, Jharkhand State.
2. **Location** : a) Latitude 22° 26' 05" to 22° 35' 32" N.
b) Longitude 85° 45' 44" to 85° 54' 55" E.
3. **Total Area** : 8,604 ha.
4. **Agroclimatic Region** : Eastern Plateau and hill region (VII)
5. **Type of Survey** : Detailed Soil Survey.
6. **Period of Survey** : April, 2002 to April, 2004
7. **Base Material used** : Cadastral map (16": 1 mile)
8. **Soil Conservation Region** : 8 Eastern Red Soils Region.

10 Microwatershedwise Distribution of Area (ha) under Different Land Capability Classes

Land Capability Class	4H3B4	4H3B4	4H3B4	4H3B4	4H3B4	4H3B4	4H3B4	4H3B4	4H3B4	4H3B4	4H3B4	4H3B4	4H3B4c	4H3B4c	4H3B4c	4H3B4c	4H3B4c	4H3B4c	4H3B4c	4H3B4c	Total	Area & %
	b1	b2	b3	b4	b5	b6	b7	b8	b9	1	2	3	4	5	6							
Class - II	132	64	243	527	223	79	169	106	77	104	148	111	186	92	23	2284						
	1.5	0.7	2.8	6.1	2.6	0.9	2.0	1.2	0.9	1.2	1.7	1.3	2.2	1.1	0.3	26.6						
Class - III	241	163	301	249	289	545	391	642	242	209	60	260	125	76	117	4010						
	2.8	1.9	3.5	2.9	3.4	6.3	4.5	7.5	2.8	3.6	0.7	3.0	1.5	0.9	1.4	46.6						
Class - IV	45	0	26	24	7	55	19	87	112	107	15	118	93	44	49	801						
	0.5	0.0	0.3	0.3	0.1	0.6	0.2	1.0	1.3	1.2	0.2	1.4	1.1	0.5	0.6	9.3						
Class - VI	10	0	0	14	15	1	55	12	0	1	39	16	11	5	21	200						
	0.1	0.0	0.0	0.2	0.2	0.0	0.6	0.1	0.0	0.0	0.5	0.2	0.1	0.1	0.2	2.3						
Class - VII	6	0	0	0	73	22	25	14	39	14	0	0	0	0	0	204						
	0.1	0.0	0.0	0.0	0.8	0.3	0.3	0.2	0.5	0.2	0.0	0.0	0.0	0.0	0.1	2.4						
Misc.	21	17	58	47	30	29	42	0	19	80	450	77	88	113	34	1105						
Subtotal	0.2	0.2	0.7	0.5	0.3	0.3	0.5	0.0	0.2	0.9	5.2	0.9	1.0	1.3	0.4	12.9						
G. Total	455	244	628	861	637	731	701	861	489	615	712	582	503	330	255	8604						
% age	5.3	2.8	7.3	10.0	7.4	8.5	8.2	10.0	5.7	7.2	8.3	6.8	5.8	3.8	3.0	100.1						

11. Specific Problems in the Survey Area

S.No	Land Category (Class)	Area										Total Area & %					
		01	02	03	04	05	06	07	08	09	1		2	3	4	5	6
1	Shallow soil	61	0	26	38	95	78	96	113	151	122	54	134	104	49	81	1206
		0.7	0	0.3	0.4	1.1	0.9	1.2	1.3	1.8	1.4	0.6	1.6	1.2	0.6	0.9	14.0
2	Moderate Slope	10	0	0.0	0.2	0.2	0.0	0.6	0.1	0.0	1	39	16	11	5	21	200
		0.1	0	0.0	0.2	0.2	0.0	0.6	0.1	0.0	0.0	0.5	0.2	0.1	0.1	0.2	2.5
3	Strongly Sloping	0	0	0	0	0	0	0	1	0	14	0	0	0	0	11	26
		0	0	0	0	0	0	0	0.0	0.0	0.2	0	0	0	0	0.1	0.3
4	Moderately Sloping	6	0	0	0	34	18	3	11	22	0	0	0	0	0	0	94
		0.1	0	0	0	0.3	0.2	0.0	0.1	0.4	0	0	0	0	0	0	1.1
5	Steep Slopes	0	0	0	0	16	3	22	0	0	0	0	0	0	0	0	41
		0	0	0	0	0.2	0.0	0.3	0	0	0	0	0	0	0	0	0.5
6	Very Steep Slopes	0	0	0	0	133.0	1.6	0	2.0	7.0	0	0	0	0	0	0	43
		0	0	0	0	1.6	0.0	0.0	0.1	0.1	0	0	0	0	0	0	0.5
7	Moderate Erosion	188	55	238	162	134	234	256	451	191	260	84	220	217	104	148	2962
		2.2	0.6	2.8	1.2	1.6	3.2	3.0	5.3	2.3	3.4	1.0	2.6	2.5	1.2	1.7	34.4
8	Severe Erosion	6	0	12	19	64	16	98	29	40	11	25	24	11	5	27	347
		0.1	0	0.1	0.2	0.7	0.2	0.7	0.3	0.5	0.1	0.3	0.3	0.1	0.1	0.3	4.0
9	Severe Stoniness &	16	0.0	0.0	0.0	81	25	25	13	29	94	25	105	89	21	29	572
		0.2	0.0	0.0	0.0	0.9	0.3	0.3	0.2	0.5	1.1	0.3	1.2	1.0	0.3	0.5	6.6

12. Salient Features of the Area

S. No.	Particulars	Area in ha	Percentage %
1.	Area under forest	178	2.1
2.	Area under cultivation	6074	70.6
3.	Irrigated land, Rabi crop	688	8.0
4.	Area under culturable waste land	1247	14.5
5.	Area under miscellaneous land such as road, river, streams, habitation etc.	1105	12.8
6.	Area under Kharif crops	6074	70.6
7.	Single cropped area	6074	70.6
		8604	100.0

HOW TO USE SOIL SURVEY REPORT

The report presents findings of the standard Detailed Soil Survey conducted in 4H3B4b1-b9 and 4H3B4c1-c6 microwatershed of Subarnarekha catchment, District West Singhbhum of Jharkhand State. It provides comprehensive information on the soils of the area, their distribution, classification and inter-relationship. The data presented in this report can be used for various development purposes such as crop planning, preparation of soil and water conservation plans, identification of new areas for afforestation, engineering application, eco-restoration and waste land management etc.

The soil and land capability map is appended with the report. Each soil unit is delineated on the map and represented by a symbolic expression. The abbreviated symbol gives the information about the soil series name, effective depth, surface texture, slope, erosion, stoniness and rockiness. For example, the soil mapping unit AR2 d H3 SR represents

AR	-	Amra soil series
2	-	Depth of soil i.e., shallow (10-25 cm) depth class
d	-	Surface texture i.e., gravelly sandy loam, under scoring indicates gravelliness
H	-	Soil slope class i.e., very steep sloping (33-50% slope gradient)
3	-	Soil erosion class i.e., severe erosion.
SR	-	Indicates for severe stony and rocky phase.

The Land Capability Units indicated on the map are suggestive of the potentialities and limitations of the soils of the area. These are described in Chapter-6. The area of interest may be located on the map. Soil mapping units and particulars of interpretative groups may be noted down.

Detailed Soil Series description may be obtained by referring to Chapter 5 "Information on interpretations can be had from Chapter-8. Interested users can have the morphological description of the typifying pedon followed by soil test data from Appendix-II.

For broad soil conservation measures and proposed land use information for project planning Chapter-1 may be referred. The list of all mapping units with area under different microwatersheds and their interpretative grouping such as Land Capability classes and Land Irrigability, Paddy Soil Groupings, hydrological Groupings are given in Appendix-I. "The Guide to Soil Mapping Units". The users can refer to this statement for quick appraisal of the soil and land characteristics of the area surveyed.

The recommendations and suggestions given in report are of broad nature. However for specific site development and treatment local conditions and experience should be made use of.

For further clarification and explanation, communication may be made to:

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