

REPORT ON DETAILED SOIL SURVEY AND LAND USE OF 4H1F2m4 AND 4H1F6f2 MICRO - WATERSHEDS OF KOEL-KARO CATCHMENT, DISTRICT-GUMLA AND RANCHI (JHARKHAND).

ABSTRACT

1. Survey Area : Priority micro-watersheds 4H1F2m4 and 4H1F6f2 of Koel-Karo Catchment, P.S. Bharno & Sisai, Distt. Gumla and P.S. Karra & Torpa, Distt. Ranchi, Jharkhand.
2. Type of Survey : Detailed Soil Survey
3. Total Surveyed Area : 3141 ha.
4. Base Map used : Cadastral map (1" = 16 mile scale)
5. Period of Survey : March, 2003 to June, 2003.
6. Agro-Climatic Region : VII Eastern Plateau and Hill Region.
7. Soil Conservation Region : 8, Eastern Red Soil Region.

8. Soil Series Mapped and Their Distribution

Sl. No.	Soil series	No. of mapping units	Micro watersheds Area (%)		Total area %
			4H1F2m4	4H1F6f2	
1.	Amra (AR)	2	15 (0.5)	208 (6.6)	223 (7.1)
2.	Baralota (BL)	3	32 (1.0)	88 (2.8)	120 (3.8)
3.	Bathantoli (BT)	4	210 (6.7)	100 (3.2)	310 (9.9)
4.	Dumka (D)	4	128 (4.1)	235 (7.5)	363 (11.6)
5.	Hathiapathar (H)	2	347 (11.0)	271 (8.6)	618 (19.6)
6.	Lakshmipur (L)	2	21 (0.7)	83 (2.6)	104 (3.3)
7.	Latu (LT)	1	12 (0.4)	-	12 (0.4)
8.	Maran (MR)	4	381 (12.1)	250(8.0)	631 (20.1)
9.	Pashibali (PB)	3	43 (1.4)	-	43 (1.4)
10.	Pusaro (P)	2	67 (2.1)	144 (4.6)	211 (6.7)

11.	Rengalbeda (RG)	3	40 (1.3)	-	40 (1.3)
12	Sarua (S)	2	142 (4.5)	47 (1.5)	189 (6.0)
13.	Sidumtoli (ST)	2	34 (1.1)	-	34 (1.1)
Total		34	1472 (46.9)	1426 (45.4)	2898 (92.3)
Miscellaneous		-	167 (5.3)	76 (2.4)	243 (7.7)
Grand Total		-	1639 (52.2)	1502 (47.8)	3141 (100)

Figures in parenthesis indicate percentage.

9. Micro Watershed Wise Distribution of Area (ha.) under Different Land Capability Classes

Sl. No.	Land capability classes	Micro watershed area %		Total area in ha. %
		4H1F2m4	4H1F6f2	
1.	Class-II	791 (25.2)	756 (24.1)	1547 (49.3)
2.	Class-III	461 (14.7)	191 (6.1)	656 (20.8)
3.	Class-IV	130 (4.1)	208 (6.6)	334 (10.7)
4.	Class-VI	75 (2.4)	63 (2.0)	138 (4.4)
5.	Class-VII	15 (0.5)	208 (6.6)	223 (7.1)
Total		1472 (46.9)	1426 (45.4)	2898 (92.3)
Miscellaneous		167 (5.3)	76 (2.4)	243 (7.7)
Grand Total		1639 (52.2)	1502 (47.8)	3141 (100)

Figures in parenthesis indicate percentage.

10. Specific Problems in the Survey Area

Sl. No.	Problems	Micro watershed wise area %		Total area in ha. %
		4H1F2m4	4H1F6f2	
1.	Shallow soils	183 (5.8)	443 (14.1)	626 (19.9)
2.	Moderate slope	43 (1.4)	39 (1.2)	82 (2.6)
3.	Moderately steep slope	15 (0.5)	129 (4.1)	144 (4.6)
4.	Steep slope	-	79 (2.5)	79 (2.5)
5.	Moderate erosion	805 (25.7)	679 (21.6)	1488 (47.3)
6.	Severe erosion	136 (4.3)	334 (10.6)	466 (14.9)
7.	Very severe erosion	10 (0.3)	7 (0.3)	17 (0.6)
8.	Severe stoniness and rockiness	80 (2.6)	264 (8.4)	344 (11.0)

Figures in parenthesis indicate percentage.

11. Salient Features of the Area

Sl.No.	Particulars	Area(ha.)	Percentage
1.	Total area surveyed	3141	100
2.	Miscellaneous area (Habitation, Road, Pond, Rivers and Streams, ROC etc)	243	7.7
3.	Area under waste land	138	4.4
4.	Area under forest	237	7.6
5.	Area under cultivation	2523	80.3
6.	Good cultivable land	1547	49.3
7.	Moderately good cultivable land	656	20.9
8.	Fairly good cultivable land	334	10.6
9.	Shallow soils	626	19.9
10.	Moderately deep soils	116	3.7
11.	Deep to very deep soils	2156	68.7
12.	Terraced and bunded land	927	29.5
13.	Area having high water table	309	9.8
14.	Area free from stones and rocks	2441	77.7
15.	Area with slightly stony & rocky	113	3.6
16.	Area with severely stony & rocky	344	11.0