

Report on Detailed Soil Survey and Land Use of 2C1B7a1, a2, a3, a5, a6, a7, b9, c1, c2, c3, c4, c5, c7, c9, f1, f2, h4, h5, j2, j3, j4, j5, j6, j7, j8, j9, k1, k3, k4, k7, n4, q5, r1, r3, r4, r5, r6, s2, s3, t3, u1, u3, v1, v3, v4, and v5 Micro-watersheds of Ken Catchment (FPR) in Tehsil and District - Chhattarpur, Madhya Pradesh State

ABSTRACT

1. ***SURVEY AREA*** : 2C1B7a1, a2, a3, a5, a6, a7, b9, c1, c2, c3, c4, c5, c7, c9, f1, f2, h4, h5, j2, j3, j4, j5, j6, j7, j8, j9, k1, k3, k4, k7, n4, q5, r1, r3, r4, r5, r6, s2, s3, t3, u1, u3, v1, v3, v4, and v5 Micro-watersheds of Ken Catchment (FPR) in Tehsil and District - Chhattarpur, Madhya Pradesh State
2. ***GEO-GRAPHICAL LOCATION*** : between 24° 45' 30" to 25° 15' 0" N Latitude and between 79° 30' 0" to 80° 5' 0" E Longitude
3. ***Type of Survey*** : Detailed Soil Survey using Remote sensing techniques
4. ***Base map used*** : Google maps
5. ***Total area mapped*** : 41,657 ha
6. ***Agro Climatic Region*** : Central Plateau & Hill region(Region No.VIII)
7. ***Period of Survey*** : Feb. to March, 2013 and May to June,2013
8. ***Scale of map*** : Google maps on 1:12,500 Scale

9. Names of Soil Series and their extent:

Sl. No.	Series Name	No. of mapping unit	Area (ha)	Percentage
1.	Bamitha(B)	3	746	1.79
2.	Basari(BS)	6	5399	12.96
3.	Devgaon(D)	7	6502	15.61
4.	Hama(H)	5	1343	3.22
5.	Karri(K)	8	9784	23.49
6.	Rajnagar(R)	3	1611	3.87
7.	Satna(S)	7	13721	32.94
8.	Waterbodies	-	1121	2.69
9.	Misc. Lands	-	1430	3.43
	Total	39	41657	100.00

10. Distribution of Area under Different Soil Depth Classes:

Soil Depth Class	Area in ha	Percentage
Shallow	8859	21.27
Moderately deep	13721	32.94
Deep	9784	23.49
Very deep	6742	16.18
Water bodies	1121	2.69
Misc. Lands	1430	3.43
Total	41657	100.00

11. Distribution of Area under Different Soil Erosion Classes:

Erosion Class	Area in ha.	Percentage
None to slight erosion	2894	6.95
Moderate erosion	28199	67.69
Severe erosion	8013	19.24
Water bodies	1121	2.69
Misc. Lands	1430	3.43
Total	41657	100.00

12. Distribution of Area under Different Land Capability Classes:

Land Capability Class	Area in ha	Percentage
II	11480	27.56
III	17635	42.34
IV	8148	19.56
VI	1439	3.45
VII	172	0.41
Forest	232	0.56
Water bodies	1121	2.69
Misc. Lands	1430	3.43
Total	41657	100.00

13. Distribution of area under different slope classes

Slope Classes	Area in ha.	Percentage
Very gentle Slope	17477	41.95
Gentle Slope	18445	44.29
Moderate Slope	1573	3.78
Strong Slope	993	2.38
Moderately steep Slope	446	1.07
Steep Slope	172	0.41
Water bodies	1121	2.69
Miscl. land	1430	3.43
Total	41657	100.00

14. Salient Features of the area:

- 16526 ha (39.67 %) area is covered by deep to very deep soils.
- 8859 ha (21.27 %) area has shallow soils.
- 8013 ha (19.24 %) are subjected to severe erosion and thus urgently require integrated soil conservation measures.
- 30015 ha (72.05%) area is suitable for agriculture and 7248 ha (17.40%) area is marginally suitable for agriculture.
- 1611 ha (3.87%) land may be brought under agro-horticulture or pasture development.
- 232 ha (0.55%) land under Forest.
- 1430 ha (3.43%) and 1121 ha (2.69%) of the area is covered under miscellaneous land and water bodies, respectively.

How to Use Soil Survey Report

The present report furnishes a detailed account of various characteristics of the surveyed area like Physiography, relief, geology, climate, natural vegetation, land use and soils. Detailed descriptions of soils series recognized in the area and interpretation of different soil mapping units for various applied aspects of agricultural development, such as land use planning, soil and water management, soil conservation, are given in relevant chapters. Different problems of the area have been depicted and corrective measures have also been suggested.

In order to use the report, the user will locate the area of his interest on the soil map appended with the report. On the map, each soil mapping unit has been delineated and represented by symbolic expression. The abbreviated symbol of mapping unit reflects information about the name of soil series, soil depth, surface texture, land slope, gradient erosion status and surface features like gravelliness, stoniness and rockiness. The soil mapping unit is demarcated as S3dC2S where ‘S’ represents for ‘Satna’ Soil Series, ‘3’ for Moderately deep soil depth, ‘d’ for gravelly sandy loam surface texture, ‘C’ for Gentle slope (3-5%), ‘2’ for moderate water erosion and ‘S’ for slightly Stony phase.

The detailed of the soil mapping units, their description and multipurpose interpretative groupings have been shown in **Annexure-I** (Guide to Soil Mapping Units). The Differentiating Morphological Characteristics of Soil Series are furnished in **Table-5** and the Morphological Description of Soil Series is described in **Annexure-II**. and micro watershed wise mapping unit list is described in **Annexure-III**. An analytical method is described in **Annexure –IV**. The Glossary of Scientific terms used in this report is given in **Annexure –V**. The symbols used in the report are also illustrated in **Annexure-VI**. For any clarification and comments correspondence may be made to either of the following addresses.

The Chief Soil Survey Officer
Soil & Land Use Survey of India
I.A.R.I., New Delhi – 110012
Tele - 011-25841263, 25849486
Fax: - 011-25843811
Email: - csso-slusi@nic.in

Or

The Soil Survey Officer
Soil & Land Use Survey of India
C-4, Sector-1, NOIDA-201301
Tele - 0120-2442694 / 2544804
Fax – 0120-2442694
Email: - ssonoida-slusi@nic.in