

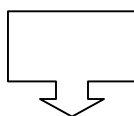
सारांश / ABSTRACT

- 1. Survey Area** : “5D4A4p2, p3 , q1,q2 & q3, 5D4A6a3,b2, b4, सर्वेक्षित क्षेत्र c1, c2, c4, f3,f4, h3, m3, t1, t3, u2, v1,v2, v3 & w4, 5D4A7a1, b1, b2, c1, c2, f1 & f3” micro watersheds of Narmada Catchment (RVP), Taluka- Bareli & Udaipura, Dist. – Raisen and Taluka- Tendukhera, Dist. – Narsimhapur, Madhya Pradesh
- 2. Total Area Mapped and Reported** : 36,993 ha
36,९९३ हेक्टेयर
मैप किया गया क्षेत्रफल
- 3. Base map used** : 1. High resolution satellite image
उपयोग किये आधार नक्शे on 1: 12,500 Scale
उच्च संकल्प उपग्रह छवि (मापक १:१२,५००)
2. Cadastral maps on 1: 4,000 Scale
ग्राम भूकर मानचित्र (मापक १:४,०००)
- 4. Geographical Location** : 22° 05' - 23° 13'N Latitude उत्तर अक्षांश
भौगोलिक स्थिति 78° 13' - 78° 51' E Longitude पूर्व देशांतर
- 5. Kind of Survey** : Detailed Soil Survey विस्तृत मृदा सर्वेक्षण
सर्वेक्षण का प्रकार
- 6. Period of Survey** : April 2015 to June 2015
सर्वेक्षण की अवधि अप्रैल, २०१५ से जून, २०१५
- 7. Agro climatic Zone** : Central plateau and hill region (VIII)
आद्रता जलवायु क्षेत्र मध्य पठार एवं पर्वत श्रेणी (ज़ोन-VIII)

8. Micro-watersheds wise distribution of area(inha)under different soil series

विभिन्न सूक्ष्म-जलग्रहण क्षेत्र एवं मृदा श्रेणी के अंतर्गत क्षेत्रफल:

Series Name	Area	% age	5D4A4p2	5D4A4p3	5D4A4q1	5D4A4q2	5D4A4q3	5D4A6a3	5D4A6b2	5D4A6b4	5D4A6c1	5D4A6c2	5D4A6c4	5D4A6f3	5D4A6f4
Dhalkheda	303	0.8	-	-	-	-	-	-	-	-	-	-	-	-	-
Dhanwara	221	0.6	-	-	-	-	-	-	-	-	-	-	-	-	-
Jharpa	16585	44.8	166	289	98	717	490	641	158	834	586	492	1248	429	343
Kamtara	328	0.9	-	-	-	-	-	-	-	-	-	-	-	-	-
Kapsi	76	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-
Khiriya	549	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-
Maharajpur	1936	5.2	-	-	-	13	98	50	243	376	-	-	731	-	-
Pokarni	633	1.7	-	-	-	-	-	-	-	-	-	-	-	-	-
Udaipura	13053	35.3	338	229	227	241	281	442	607	328	42	276	105	343	314
Uda	856	2.3	-	53	4	37	-	42	86	127	16	52	66	22	78
Misc	2453	6.6	116	186	134	201	116	109	48	16	20	42	69	17	138
Total	36993	100.0	620	757	463	1209	985	1284	1142	1681	664	862	2219	811	873
% age	100.0		1.7	2.0	1.3	3.3	2.7	3.5	3.1	4.5	1.8	2.3	6.0	2.2	2.4

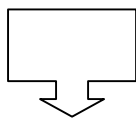


Series Name	5D4A6h3	5D4A6m3	5D4A6t1	5D4A6t3	5D4A6u2	5D4A6v1	5D4A6v2	5D4A6v3	5D4A6w4	5D4A7a1	5D4A7b1	5D4A7b2	5D4A7c1	5D4A7c2	5D4A7f1	5D4A7f3
Dhalkheda	86	217	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dhanwara	136	85	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Jharpa	1461	1557	12	108	303	72	336	986	624	181	225	1382	40	1624	668	515
Kamtara	298	-	-	-	-	-	-	-	-	-	-	-	-	30	-	-
Kapsi	-	-	-	-	-	-	-	-	-	-	-	-	-	76	-	-
Khiriya	229	320	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Maharajpur	-	425	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pokarni	508	125	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Udaipura	-	-	113	456	805	493	1192	758	646	252	579	613	593	719	1019	1042
Uda	-	-	12	-	142	119	-	-	-	-	-	-	-	-	-	-
Misc	49	68	92	72	89	183	131	124	67	35	59	76	44	34	73	45
Total	2767	2797	229	636	1339	867	1659	1868	1337	468	863	2071	677	2483	1760	1602
% age	7.5	7.6	0.6	1.7	3.6	2.3	4.5	5.0	3.6	1.3	2.3	5.6	1.8	6.7	4.8	4.3

9. Micro-watersheds wise Distribution of Area under various Land Capability units (LCU)

विभिन्न भूमि क्षमता वर्गीकरण एवं सूक्ष्म-जलग्रहण क्षेत्र के अंतर्गत क्षेत्रफल:-

LCU	Area	% age	5D4A4p2	5D4A4p3	5D4A4q1	5D4A4q2	5D4A4q3	5D4A6a3	5D4A6b2	5D4A6b4	5D4A6c1	5D4A6c2	5D4A6c4	5D4A6f3	5D4A6f4
Iles-1	189	0.5	3	8	1	41	112	24	-	-	-	-	-	-	-
Iles-2	7223	19.5	24	112	29	311	70	276	243	376	218	79	1199	-	21
IIles-1	29	0.1	-	-	-	-	-	-	-	-	-	-	-	-	27
IIles-2	8769	23.7	124	128	48	337	289	304	185	629	240	308	556	246	247
IVes-1	9845	26.6	115	182	92	199	256	363	330	470	171	279	343	312	343
IVes-2	6596	17.8	238	141	159	120	142	208	336	190	15	154	52	236	97
IVes-3	99	0.3	-	-	-	-	-	-	-	-	-	-	-	-	-
IVes-4	229	0.6	-	-	-	-	-	-	-	-	-	-	-	-	-
Forest	1561	4.2	-	-	-	-	-	-	-	-	-	-	-	-	-
Misc.	2453	6.6	116	186	134	201	116	109	48	16	20	42	69	17	138
Total	36993	100.0	620	757	463	1209	985	1284	1142	1681	664	862	2219	811	873
%	100.0		1.7	2.0	1.3	3.3	2.7	3.5	3.1	4.5	1.8	2.3	6.0	2.2	2.4

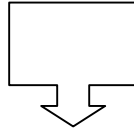


LCU	5D4A6h3	5D4A6m3	5D4A6t1	5D4A6t3	5D4A6u2	5D4A6v1	5D4A6v2	5D4A6v3	5D4A6w4	5D4A7a1	5D4A7b1	5D4A7b2	5D4A7c1	5D4A7c2	5D4A7f1	5D4A7f3
Iles-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Iles-2	485	1046	-	96	157	15	82	313	381	110	117	350	4	826	229	54
IIles-1	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-
IIles-2	773	611	-	187	298	108	289	503	157	108	47	602	37	677	373	358
IVes-1	339	410	67	246	471	273	542	428	210	51	453	1005	252	419	462	762
IVes-2	-	-	70	33	324	288	615	500	522	164	187	38	340	421	623	383
IVes-3	69	-	-	-	-	-	-	-	-	-	-	-	-	30	-	-
IVes-4	229	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Forest	823	662	-	-	-	-	-	-	-	-	-	-	-	76	-	-
Misc.	49	68	92	72	89	183	131	124	67	35	59	76	44	34	73	45
Total	2767	2797	229	636	1339	867	1659	1868	1337	468	863	2071	677	2483	1760	1602
%	7.5	7.6	0.6	1.7	3.6	2.3	4.5	5.0	3.6	1.3	2.3	5.6	1.8	6.7	4.8	4.3

10. Micro-watersheds wise Distribution of Area under various Erosion Classes

विभिन्न भू-क्षरण वर्गों एवं सूक्ष्म-जल ग्रहण क्षेत्रों के अंतर्गत क्षेत्रफल:

Erosion	Area	% age	5D4A4p2	5D4A4p3	5D4A4q1	5D4A4q2	5D4A4q3	5D4A6a3	5D4A6b2	5D4A6b4	5D4A6c1	5D4A6c2	5D4A6c4	5D4A6f3	5D4A6f4
None to slight erosion (e1)	218	0.6	3	8	1	41	112	24	-	-	-	-	-	-	27
Moderate erosion (e2)	16376	44.3	148	240	77	648	359	580	428	1005	458	387	1755	246	268
Severe erosion (e3)	17946	48.5	353	323	251	319	398	571	666	660	186	433	395	548	440
Misc.	2453	6.6	116	186	134	201	116	109	48	16	20	42	69	17	138
Total	36993	100.0	620	757	463	1209	985	1284	1142	1681	664	862	2219	811	873
%^ age	100.0	-	1.7	2.0	1.3	3.3	2.7	3.5	3.1	4.5	1.8	2.3	6.0	2.2	2.4



Erosion	5D4A6h3	5D4A6m3	5D4A6t1	5D4A6t3	5D4A6u2	5D4A6v1	5D4A6v2	5D4A6v3	5D4A6w4	5D4A7a1	5D4A7b1	5D4A7b2	5D4A7c1	5D4A7c2	5D4A7f1	5D4A7f3
None to slight erosion (e1)	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-
Moderate erosion (e2)	1549	1720	-	283	455	123	371	816	538	218	164	952	41	1533	602	412
Severe erosion (e3)	1169	1009	137	279	795	561	1157	928	732	215	640	1043	592	916	1085	1145
Misc.	49	68	92	72	89	183	131	124	67	35	59	76	44	34	73	45
Total	2767	2797	229	636	1339	867	1659	1868	1337	468	863	2071	677	2483	1760	1602
%^ age	7.5	7.6	0.6	1.7	3.6	2.3	4.5	5.0	3.6	1.3	2.3	5.6	1.8	6.7	4.8	4.3

11. Series wise Distribution of Area under various Land Capability Classes

विभिन्न भूमि क्षमता वर्गीकरण अंतर्गत आने वाले क्षेत्र की मृदा श्रेणी के अंतर्गत वितरण:

LCU	Area	%	Other	Dhalkheda	Dhanwara	Jharpa	Kamtara	Kapsi	Khiriya	Maharajpur	Pokarni	Udaipura	Uda
Iles-1	189	0.5	-	-	-	67	-	-	-	122	-	-	-
Iles-2	7223	19.5	-	-	20	5389	-	-	-	1814	-	-	-
IIles-1	29	0.1	-	-	-	29	-	-	-	-	-	-	-
IIles-2	8769	23.7	-	-	201	7337	-	-	-	-	-	944	287
IVes-1	9845	26.6	-	-	-	3763	-	-	-	-	-	5513	569
IVes-2	920	2.5	-	-	-	-	-	-	-	-	-	920	-
IVes-2	5676	15.3	-	-	-	-	-	-	-	-	-	5676	-
IVes-3	99	0.3	-	-	-	-	99	-	-	-	-	-	-
IVes-4	229	0.6	-	-	-	-	229	-	-	-	-	-	-
Forest	1561	4.2	-	-	-	-	-	-	-	-	-	-	-
Misc.	2453	6.6	2453	-	-	-	-	-	-	-	-	-	-
Total	36993	100	2453	0	221	16585	328	0	0	1936	0	13053	856
% age	100.0	0.3	6.6	0.0	0.6	44.8	0.9	0.0	0.0	5.2	0.0	35.3	2.3

12. Salient features *मुख्य विशेषताएं:*

- ❖ Out of the total surveyed area of 36,993 ha, about 87.7% (32,430 ha) land is under very deep soils. About 3.1% (1,157 ha) area comes under deep to moderately deep soils followed by 2.6 % (953 ha) area under shallow soils.

कुल सर्वेक्षित क्षेत्र ३६,९९३ हे. का ८७.७ % (३२,४३० हेक्टेयर) बहुत गहरी भूमि हैं । ३.१% (१,१५७ हे.) गहरी से माध्यम गहरी भूमि हैं । बाकी २.६ % (९५३ हेक्टेयर) उथली भूमि हैं ।

- ❖ About 19.5 % (7,223 ha) area has very gentle slope, while 0.5 % (189 ha) is terraced land on very gentle slope and 52.5% (19430 ha) of the total surveyed area occurs on gentle slope while 0.1 % (29 ha) is terraced land on gentle slope. About 19.0 % (7,044 ha) area on moderate slope and 1.6 % (625 ha) above strong slope.

कुल सर्वेक्षित क्षेत्र का १९.५ % (७,२२३ हेक्टेयर) बहुत कम ढलान, जबकि ०.५ % (१८९ हेक्टेयर) बहुत कम ढलान पर सीढ़ीदार भूमि है और ५२.५ % (१९,४३० हेक्टेयर) कम ढलान जबकि ०.१% (२९ हेक्टेयर) कम ढलान पर सीढ़ीदार भूमि है। बाकी १९.० % (७,०४४ हेक्टेयर) मध्यम ढलान तथा १.६ % (६२५ हेक्टेयर) तीव्र ढलान वाली भूमि है

- ❖ About 44.3 % (16,376 ha) of total area suffers moderate erosion hazards. Which needs to be monitored for soil health and degradation.

कुल क्षेत्रफल का लगभग ४४.३ % (१६,३७६ हेक्टेयर) भूमि मध्यम कटाव भू-क्षरण से प्रभावित है, जिसमें मिट्टी के स्वास्थ्य और अवनति रोकने के लिए निगरानी की जरूरत है।

- ❖ About 48.5 % (17,946 ha) area suffer from severe gully erosion hazards. Which needs immediate attention for proper soil and water conservation measures as per the landform characteristics.

कुल क्षेत्रफल का लगभग ४८.५ % (१७,९४६ हेक्टेयर) गंभीर गली भू-क्षरण से प्रभावित जिसमें मिट्टी के स्वास्थ्य और अवनति रोकने के लिए निगरानी की जरूरत है जिसमें मृदा और जल संरक्षण के उपायों के लिए तत्काल ध्यान देने की जरूरत है।

- ❖ About 20.0 % (7,412 ha) are under Land capability class II-suitable for intensive cropping and for adoptions of Agri-horticulture cropping system. Similarly about 23.8 % (8,798 ha) ha land under land capability class III-is fairly suitable for agriculture, Agri-Horti-Silvi culture cropping system and animal husbandry based cropping system.

भूमि क्षमता वर्ग-II के अंतर्गत २०.० % (७,४१२ हेक्टेयर) भूमि गहन फसल के लिए और कृषि- बागवानी फसल प्रणाली के लिए उपयुक्त है। उसी प्रकार भूमि क्षमता वर्ग-III के अंतर्गत २३.८ % (८,७९८ हेक्टेयर) कृषि, कृषि-वागवानी संवर्धन फसल प्रणाली और पशुपालन आधारित फसल प्रणाली के लिए काफी उपयुक्त है।

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. Description of the soil series recognized in the area, like detailed information on soil characteristics, classification, potentialities and limitations are given in the report. Interpretations of different soil mapping units for various applied aspects of agricultural development such as land use plans, soil and water management, soil conservation plans, identification of areas for afforestation, engineering applications, and eco-restoration and waste-land management have been given in different chapters. Different problems of the area have also been depicted and their corrective measures are thereby suggested. Soil survey interpretations for land capability class, soil and land irrigability class, hydrological grouping and paddy grouping are described in chapter 7.

In order to use the report, the user will locate the area of his interest on the soil map appended with the report. Permanent features like roads, village sites, streams and ponds etc. would help for location of specific area. On the map each soil unit has been delineated and represented by symbolic expression dealing with all technical description. The abbreviated symbol of mapping unit shows information about the name of soil series, soil depth, soil texture, land slope gradient, erosion condition and land surface features like gravelliness, stoniness or rockiness. It refers to a particular type of soil like an example **MJ5rB2** that represents MJ- Maharajpur series, 5- Very Deep , r- clay texture of surface, B- very gently sloping (1-3%)', 2- moderate erosion, Details of the soil mapping unit with description, extent in each micro-watershed and their multipurpose interpretations (like land capability units, soil and land irrigability classes, paddy soil grouping, hydrological grouping etc) have been shown in appendix I (Guide to soil mapping units).

The differentiating morphological characteristics of soil series are furnished in table 5 and the typifying pedon of soil series are described in Appendix II where detailed description of soils and morphological description of representative soil profiles along with their analytical data are given. Village wise mapping units, their area extent, and present land use and management status, physiography, predominant slope, land use and land capability classification etc. are given in Appendix III.

The symbols used in the report and the analytical methods used for soil analysis are also illustrated in Appendix-IV & V respectively. The Glossary of scientific terms used in this report is given in Appendix-VI.

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