

**Report on Detailed Soil Survey and Land Use of 5D4B6f1-5, 5D4B7g1-3, j1-2, n1-2, r1-2, 5D4B8a1-3, c4-6, j1, m2 and z1-4, micro-watersheds, Narmada Catchment District-Jabalpur, Madhya Pradesh State**

**ABSTRACT**

- 1. Survey Area** : 5D4B6f1-5, 5D4B7g1-3, j1-2, n1-2, r1-2, 5D4B8a1-3, c4-6, j1, m2 and z1-4 micro-watersheds, Narmada Catchment District-Jabalpur, Madhya Pradesh State
- 2. Total Area Mapped and Reported** : 17,725 ha
- 3. Base map used** : 1. Google maps on 1: 12,500 Scale  
2. Cadastral maps on 1: 4,000 Scale
- 4. Geographical Location** : 79°-34' to 80°-11' E, longitude  
22°-57' to 23°-15' N, latitude
- 5. Kind of Survey** : Detailed Soil Survey
- 6. Period of Survey** : Dec, 2012 to Jan, 2013
- 7. Agro climatic Zone** : Central Plateau and Hill Region No-VIII

## 8. Soil Series mapped and area covered under each series under different micro-watersheds:

Series Name	Area	5D4B6f1	5D4B6f2	5D4B6f3	5D4B6f4	5D4B6f5	5D4B7g1	5D4B7g2	5D4B7g3	5D4B7j1	5D4B7j2	5D4B7n1	5D4B7n2	5D4B7r1	5D4B7r2	5D4B8a1	5D4B8a2	5D4B8a3	5D4B8c4	5D4B8c5	5D4B8c6	5D4B8j1	5D4B8m2	5D4B8z1	5D4B8z2	5D4B8z3	5D4B8z4
<b>Barela</b>	1069	0	0	0	6	88	0	0	0	0	0	0	0	0	0	0	149	245	0	42	0	243	28	5	141	122	0
%	6.03	0	0	0	0.03	0.5	0	0	0	0	0	0	0	0	0	0	0.84	1.38	0	0.24	0	1.37	0.16	0.03	0.8	0.69	0
<b>Dadratola</b>	1315	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	220	224	0	0	229	0	197	3	133	301	0
%	7.42	0	0	0	0	0	0	0	0	0	0	0	0	0.05	0	0	1.24	1.26	0	0	1.29	0	1.11	0.02	0.75	1.7	0
<b>Karondi</b>	7038	444	742	666	283	18	119	468	64	56	69	445	191	29	331	127	149	110	317	522	416	336	313	282	96	383	62
%	39.71	2.5	4.19	3.76	1.6	0.1	0.67	2.64	0.36	0.32	0.39	2.51	1.08	0.16	1.87	0.72	0.84	0.62	1.79	2.94	2.35	1.9	1.77	1.59	0.54	2.16	0.35
<b>Silpura</b>	4369	0	0	0	0	0	700	347	327	444	651	351	124	207	433	166	0	0	0	0	0	7	0	234	64	198	116
%	24.65	0	0	0	0	0	3.95	1.96	1.84	2.5	3.67	1.98	0.7	1.17	2.44	0.94	0	0	0	0	0	0.04	0	1.32	0.36	1.12	0.65
<b>Subtotal</b>	13791	444	742	666	289	106	819	815	391	500	720	796	315	244	764	293	518	579	317	564	645	586	538	524	434	1004	178
%	77.81	2.5	4.19	3.76	1.63	0.6	4.62	4.6	2.2	2.82	4.06	4.49	1.78	1.38	4.31	1.66	2.92	3.26	1.79	3.18	3.64	3.31	3.04	2.96	2.45	5.67	1
<b>Miscellaneous</b>	3934	19	272	341	651	1208	107	41	56	85	59	172	66	132	135	113	26	19	37	26	38	52	54	96	32	63	34
%	22.19	0.11	1.54	1.93	3.67	6.81	0.6	0.23	0.32	0.48	0.33	0.97	0.37	0.74	0.76	0.64	0.15	0.11	0.2	0.15	0.21	0.29	0.3	0.54	0.18	0.36	0.2
<b>G Total</b>	17725	463	1014	1007	940	1314	926	856	447	585	779	968	381	376	899	406	544	598	354	590	683	638	592	620	466	1067	212
%	100	2.61	5.73	5.69	5.3	7.41	5.22	4.83	2.52	3.3	4.39	5.46	2.15	2.12	5.07	2.3	3.07	3.37	1.99	3.33	3.85	3.6	3.34	3.5	2.63	6.03	1.2

## 9. Microwatersheds wise Distribution of Area under various Land Capability Classes:

LCU	Area	5D4B6f1	5D4B6f2	5D4B6f3	5D4B6f4	5D4B6f5	5D4B7g1	5D4B7g2	5D4B7g3	5D4B7j1	5D4B7j2	5D4B7n1	5D4B7n2	5D4B7r1	5D4B7r2	5D4B8a1	5D4B8a2	5D4B8a3	5D4B8c4	5D4B8c5	5D4B8c6	5D4B8j1	5D4B8m2	5D4B8z1	5D4B8z2	5D4B8z3	5D4B8z4
II-1	3927	309	456	609	283	0	119	334	64	0	0	96	178	0	44	79	55	0	67	322	174	0	136	244	96	245	17
%	11.05	33.28	22.42	30.15	15.01	0	6.41	19.45	7.14	0	0	4.94	23.29	0	2.44	9.7	5.04	0	9.44	27.21	12.7	0	11.45	19.62	10.27	11.45	4
Ile-1	1834	135	286	57	0	18	0	0	0	56	69	349	13	0	51	39	0	58	88	59	209	198	0	38	0	66	45
%	5.16	14.54	14.06	2.82	0	0.68	0	0	0	4.77	4.42	17.98	1.7	0	2.83	4.79	0	4.84	12.39	4.99	15.26	15.47	0	3.06	0	3.08	10.58
IIle-1	699	0	0	0	0	0	0	33	0	0	0	0	0	29	236	3	67	24	66	51	33	0	85	0	0	72	0
%	1.97	0	0	0	0	0	0	1.92	0	0	0	0	0	3.85	13.09	0.37	6.14	2	9.3	4.31	2.41	0	7.16	0	0	3.36	0
IIIes-1	1025	0	0	0	0	0	138	39	0	173	129	14	124	23	156	122	0	0	0	0	0	0	0	0	0	64	43
%	2.88	0	0	0	0	0	7.43	2.27	0	14.74	8.26	0.72	16.23	3.05	8.65	14.98	0	0	0	0	0	0	0	0	0	2.99	10.11
IVe-1	578	0	0	0	0	0	0	101	0	0	0	0	0	0	0	6	27	28	96	90	0	138	92	0	0	0	0
%	1.63	0	0	0	0	0	0	5.88	0	0	0	0	0	0	0	0.74	2.47	2.33	13.52	7.61	0	10.78	7.75	0	0	0	0
IVes-1	1251	0	0	0	0	0	230	127	130	0	233	128	0	103	105	20	0	0	0	0	0	7	0	77	36	53	2
%	3.52	0	0	0	0	0	12.38	7.4	14.5	0	14.91	6.59	0	13.66	5.82	2.46	0	0	0	0	0	0.55	0	6.19	3.85	2.48	0.47
IVes-2	515	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	63	103	0	0	91	0	197	0	0	53	0
%	1.45	0	0	0	0	0	0	0	0	0	0	0	0	1.06	0	0	5.77	8.59	0	0	6.64	0	16.59	0	0	2.48	0
IVes-3	740	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	157	121	0	0	78	0	0	3	133	248	0
%	2.08	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14.39	10.09	0	0	5.69	0	0	0.24	14.23	11.59	0
IVes-4	60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	60	0	0	0	0	0	0
%	0.17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4.38	0	0	0	0	0	0
Vles-1	2093	0	0	0	0	0	332	181	197	271	289	209	0	81	172	24	0	0	0	0	0	0	0	157	28	81	71
%	5.89	0	0	0	0	0	17.88	10.54	21.97	23.1	18.5	10.77	0	10.74	9.54	2.95	0	0	0	0	0	0	0	12.63	3	3.79	16.7
Forest	1069	0	0	0	6	88	0	0	0	0	0	0	0	0	0	0	149	245	0	42	0	243	28	5	141	122	0
%	3.01	0	0	0	0.32	3.34	0	0	0	0	0	0	0	0	0	0	13.66	20.43	0	3.55	0	18.99	2.36	0.4	15.09	5.7	0
Misc.	3934	19	272	341	651	1208	107	41	56	85	59	172	66	132	135	113	26	19	37	26	38	52	54	96	32	63	34
%	11.07	2.05	13.37	16.88	34.53	45.84	5.76	2.39	6.25	7.24	3.78	8.86	8.64	17.5	7.49	13.88	2.38	1.58	5.21	2.2	2.77	4.06	4.55	7.72	3.42	2.94	8
Total	17725	463	1014	1007	940	1314	926	856	447	585	779	968	381	376	899	406	544	598	354	590	683	638	592	620	466	1067	212
%age	100	2.61	5.72	5.68	5.30	7.41	5.22	4.83	2.52	3.30	4.39	5.46	2.15	2.12	5.07	2.29	3.07	3.37	2.00	3.33	3.85	3.60	3.34	3.50	2.63	6.02	1.20

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

Erosion	Area	5D4B6f1	5D4B6f2	5D4B6f3	5D4B6f4	5D4B6f5	5D4B7g1	5D4B7g2	5D4B7g3	5D4B7j1	5D4B7j2	5D4B7n1	5D4B7n2	5D4B7r1	5D4B7r2	5D4B8a1	5D4B8a2	5D4B8a3	5D4B8c4	5D4B8c5	5D4B8c6	5D4B8j1	5D4B8m2	5D4B8z1	5D4B8z2	5D4B8z3	5D4B8z4
None to slight erosion (e1)	3927	309	456	609	283	0	119	334	64	0	0	96	178	0	44	79	55	0	67	322	174	0	136	244	96	245	17
%	22.16	1.74	2.57	3.44	1.6	0	0.67	1.88	0.36	0	0	0.54	1	0	0.25	0.45	0.31	0	0.38	1.82	0.98	0	0.77	1.38	0.54	1.38	0.1
Moderate erosion (e2)	4073	135	286	57	0	18	138	72	0	229	198	363	137	60	443	164	130	185	154	110	333	198	282	38	0	255	88
%	22.98	0.76	1.61	0.32	0	0.1	0.78	0.41	0	1.29	1.12	2.05	0.77	0.34	2.5	0.93	0.73	1.04	0.87	0.62	1.88	1.12	1.59	0.21	0	1.44	0.5
Severe erosion (e3)	3698	0	0	0	6	88	230	228	130	0	233	128	0	103	105	26	333	394	96	132	138	388	120	85	310	423	2
%	20.86	0	0	0	0.03	0.5	1.3	1.29	0.73	0	1.31	0.72	0	0.58	0.59	0.15	1.88	2.22	0.54	0.74	0.78	2.19	0.68	0.48	1.75	2.39	0.01
Very severe erosion (e4)	2093	0	0	0	0	0	332	181	197	271	289	209	0	81	172	24	0	0	0	0	0	0	0	157	28	81	71
%	11.81	0	0	0	0	0	1.87	1.02	1.11	1.53	1.63	1.18	0	0.46	0.97	0.14	0	0	0	0	0	0	0	0.89	0.16	0.46	0.4
Subtotal	13791	444	742	666	289	106	819	815	391	500	720	796	315	244	764	293	518	579	317	564	645	586	538	524	434	1004	178
%	77.81	2.5	4.18	3.76	1.63	0.6	4.62	4.6	2.2	2.82	4.06	4.49	1.77	1.38	4.31	1.67	2.92	3.26	1.79	3.18	3.64	3.31	3.04	2.96	2.45	5.67	1.01
Miscellaneous	3934	19	272	341	651	1208	107	41	56	85	59	172	66	132	135	113	26	19	37	26	38	52	54	96	32	63	34
%	22.19	0.11	1.53	1.92	3.67	6.82	0.6	0.23	0.32	0.48	0.33	0.97	0.37	0.74	0.76	0.64	0.15	0.11	0.21	0.15	0.21	0.29	0.3	0.54	0.18	0.36	0.19
G Total	17725	463	1014	1007	940	1314	926	856	447	585	779	968	381	376	899	406	544	598	354	590	683	638	592	620	466	1067	212
%	100	2.61	5.71	5.68	5.3	7.42	5.22	4.83	2.52	3.3	4.39	5.46	2.14	2.12	5.07	2.31	3.07	3.37	2	3.33	3.85	3.6	3.34	3.5	2.63	6.03	1.2

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

LCU	Area	Barela	Dadratola	Karondi	Silpura	Misc
II-1	3927	0	0	3927	0	0
%	(11.05)	(0)	(0)	(27.82)	(0)	(0)
Ile-1	1834	0	0	1834	0	0
%	(5.16)	(0)	(0)	(12.99)	(0)	(0)
IIle-1	699	0	0	699	0	0
%	(1.97)	(0)	(0)	(4.95)	(0)	(0)
IIles-1	1025	0	0	0	1025	0
%	(2.88)	(0)	(0)	(0)	(11.7)	(0)
IVe-1	578	0	0	578	0	0
%	(1.63)	(0)	(0)	(4.09)	(0)	(0)
IVes-1	1251	0	0	0	1251	0
%	(3.52)	(0)	(0)	(0)	(14.28)	(0)
IVes-2	515	0	515	0	0	0
%	(1.45)	(0)	(19.53)	(0)	(0)	(0)
IVes-3	740	0	740	0	0	0
%	(2.08)	(0)	(28.06)	(0)	(0)	(0)
IVes-4	60	0	60	0	0	0
%	(0.17)	(0)	(2.27)	(0)	(0)	(0)
Vles-1	2093	0	0	0	2093	0
%	(5.89)	(0)	(0)	(0)	(23.89)	(0)
Forest	1069	1069	0	0	0	0
%	(3.01)	(49.86)	(0)	(0)	(0)	(0)
Misc	3934	0	0	0	0	3934
%	(11.07)	(0)	(0)	(0)	(0)	(49.86)
<b>Total</b>	<b>17725</b>	<b>1069</b>	<b>1315</b>	<b>7038</b>	<b>4369</b>	<b>3934</b>
<b>%age</b>	<b>100</b>	<b>6.03</b>	<b>7.42</b>	<b>39.70</b>	<b>24.65</b>	<b>22.19</b>

## 12. Conversion of old sub-watersheds into new micro watersheds :-

Old sub watersheds Code	New micro-watershed Code
Nu'1g	5D4B7g1-3
Nu'1j	5D4B7j1-2
Nu'1n	5D4B7n1-2
Nu'1s	5D4B7r1-2
Nu'2b	5D4B8a1-3
Nu'2d	5D4B8c4-6
Nu'2p	5D4B8j1
Nu5j	5D4B6f1-5
Nu'2u	5D4B8m2
Nu'4h	5D4B6z2-4
Nu'4g	5D4B6z1

### **13. Salient features:**

- ❖ Out of the total surveyed area of 17,725 ha, about 64.38% (11,407 ha) land is under very deep soils. About 6.03 (1,069 ha) area comes under moderately deep soils followed by 7.41% (1,315 ha) area under shallow soils.
- ❖ About 1.51% (269 ha) of the total surveyed area occurs on moderately steep slope and 16.5 % land (2,926 ha) area occurs on moderate to strong slopes. About 59.6% (10,569 ha) of the total comes under very gentle to gentle slope.
- ❖ That 22.9 % land (4,073 ha) of the total surveyed area suffers from moderate erosion hazard and 20.8 % (3,698 ha) suffers from severe and 11.8% (2,093 ha) very severe erosion hazard which needs immediate attention for soil-water conservation measures.
- ❖ Only 11.5 % of the area comes under double crop. There is an enough scope for increasing the area for double crop.