

Report on Detailed Soil Survey and Land Use of Nv4g, h, j, k, m, n and p Sub watersheds of Narmada Catchment (RVP), Tahsil and District. Mandla, Madhya Pradesh

ABSTRACT

1. Survey Area : Subwatersheds Nv4g, h, j, k, m, n and p of Narmada Catchment, Tah. and Distt- Mandla, Madhya Pradesh
2. Total Area Mapped and Reported : 12,270 ha
3. Base map used : i) Aerial photographs on 1: 15,000 Scale
: ii) Cadastral maps on 1: 4,000 Scale
: iii) SOI Toposheets on 1: 50,000 Scale
4. Geographical Location : 22° 34' - 22° 44' N Latitude
80° 12' - 80° 23' E Longitude
5. Kind of Survey : Detailed Soil Survey
6. Period of Survey : November' 2011 to December' 2011
7. Agro climatic Zone : Central plateau and hill region (Zone no. VIII)

8. Sub watershed wise distribution of soil series and their extent of area (ha).

Series Name	Area	Subwatersheds						
		Nv4g	Nv4h	Nv4j	Nv4k	Nv4m	Nv4n	Nv4p
Babaliya	1165	91	172	63	240	351	44	204
%	(9.49)	(0.74)	(1.4)	(0.51)	(1.96)	(2.86)	(0.36)	(1.66)
Bastra	1257	35	377	30	355	132	107	221
%	(10.24)	(0.29)	(3.07)	(0.24)	(2.89)	(1.08)	(0.87)	(1.8)
Chhipabad	363	30	47	57	134	64	0	31
%	(2.96)	(0.24)	(0.38)	(0.46)	(1.09)	(0.52)	(0)	(0.25)
Khardi	1718	121	73	0	293	703	260	268
%	(14)	(0.99)	(0.59)	(0)	(2.39)	(5.73)	(2.12)	(2.18)
Jamali	671	114	78	19	123	167	74	96
%	(5.47)	(0.93)	(0.64)	(0.15)	(1)	(1.36)	(0.6)	(0.78)
Khapakalan	185	39	0	0	37	16	2	91
%	(1.51)	(0.32)	(0)	(0)	(0.3)	(0.13)	(0.02)	(0.74)
Khudari	998	63	229	243	131	259	17	56
%	(8.13)	(0.51)	(1.87)	(1.98)	(1.07)	(2.11)	(0.14)	(0.46)
Khursiapar	2998	395	891	414	492	806	0	0
%	(24.44)	(3.22)	(7.26)	(3.37)	(4.01)	(6.58)	(0)	(0)
Maharajpur	779	178	152	40	33	0	257	119
%	(6.35)	(1.45)	(1.24)	(0.33)	(0.27)	(0)	(2.09)	(0.97)
Mali Mohgaon	549	85	30	25	63	0	76	270
%	(4.47)	(0.69)	(0.24)	(0.2)	(0.51)	(0)	(0.62)	(2.2)
Manadehi	49	0	0	0	0	0	49	0
%	(0.4)	(0)	(0)	(0)	(0)	(0)	(0.4)	(0)
Silpura	352	167	91	62	0	0	23	9
%	(2.87)	(1.36)	(0.74)	(0.51)	(0)	(0)	(0.19)	(0.07)
Misc	1186	611	38	20	41	13	311	152
%	(9.67)	(4.98)	(0.31)	(0.16)	(0.33)	(0.11)	(2.53)	(1.24)
Total	12270	1929	2178	973	1942	2511	1220	1517
%	(100.00)	(15.72)	(17.74)	(7.91)	(15.82)	(20.48)	(9.94)	(12.35)

9. Sub-watershed wise Distribution of Area under various Land Capability units (LCU):

Land Capability Unit	Area	Subwatersheds							Soil Series
		Nv4g	Nv4h	Nv4j	Nv4k	Nv4m	Nv4n	Nv4p	
Ils-1	1618	258	249	95	186	222	191	417	Chhipabad, Jamali, Maharajpur , Mali Mohagaon Silipura
%	(13.19)	(2.10)	(2.03)	(0.77)	(1.52)	(1.81)	(1.56)	(3.40)	

Land Capability Unit	Area	Subwatersheds							Soil Series
		Nv4g	Nv4h	Nv4j	Nv4k	Nv4m	Nv4n	Nv4p	
Iles-1	412	80	28	21	87	9	141	46	Chhipabad, Jamali, Maharajpur Mali Mohgaon
%	(3.36)	(0.65)	(0.23)	(0.17)	(0.71)	(0.07)	(1.15)	(0.37)	
IIIs-1	112	21	0	0	14	10	0	67	Khapakalan
%	(0.91)	(0.17)	(0.00)	(0.00)	(0.11)	(0.08)	(0.00)	(0.55)	
IIIs-1	452	109	86	63	75	6	54	59	Chhipabad, Khapakalan, Maharajpur, Mali Mohagaon Silipura
%	(3.68)	(0.89)	(0.70)	(0.51)	(0.61)	(0.05)	(0.44)	(0.48)	
IIIs-2	16	0	0	0	16	0	0	0	Khapakalan
%	(0.13)	(0.00)	(0.00)	(0.00)	(0.13)	(0.00)	(0.00)	(0.00)	
IIIs-3	425	33	86	0	116	117	17	56	Khudari
%	(3.46)	(0.27)	(0.70)	0.00	(0.95)	(0.95)	(0.14)	(0.46)	
IVs-1	98	0	0	0	0	42	0	56	Khardi
%	(0.80)	(0.00)	(0.00)	(0.00)	(0.00)	(0.34)	(0.00)	(0.46)	
IVes-1	964	133	58	29	59	321	230	134	Babaliya, Chipabad, Khardi, Mali Mohgaon, Manadehi Silpura
%	(7.86)	(1.08)	(0.47)	(0.24)	(0.48)	(2.62)	(1.87)	(1.09)	
IVes-2	1362	175	167	58	208	386	152	216	Babaliya, Khardi, Khudari Silipura
%	(11.10)	(1.43)	(1.36)	(0.47)	(1.70)	(3.15)	(1.24)	(1.76)	
IVes-3	1370	79	198	243	293	447	17	93	Babaliya, Khardi Khudari
%	(11.17)	(0.64)	(1.61)	(1.98)	(2.39)	(3.64)	(0.14)	(0.76)	
F	4255	430	1268	444	847	938	107	221	
%	(34.68)	(3.50)	(10.33)	(3.62)	(6.90)	(7.64)	(0.87)	(1.80)	
Misc.	1186	611	38	20	41	13	311	152	
%	(9.67)	(4.98)	(0.31)	(0.16)	(0.33)	(0.11)	(2.53)	(1.24)	
Total	12270	1929	2178	973	1942	2511	1220	1517	
%	(100.0)	(15.7)	(17.7)	(7.93)	(15.83)	(20.4)	(9.94)	(12.3)	

Land Capability Unit	Area	Subwatersheds							Soil Series
		Nv4g	Nv4h	Nv4j	Nv4k	Nv4m	Nv4n	Nv4p	
	0)	2)	5))	0	6))	6)	

10. Sub-watershed wise Distribution of Area under various Erosion Classes:

SI No	Erosion	Area (ha)	Subwatersheds						
			Nv4g	Nv4h	Nv4j	Nv4k	Nv4m	Nv4n	Nv4p
1	none to slight erosion (e1) %	1828	279	249	95	200	274	191	540
		(14.9)	(2.27)	(2.03)	(0.77)	(1.63)	(2.23)	(1.56)	(4.4)
2	moderate erosion (e2) %	5695	699	1157	507	1021	1438	513	360
		(46.41)	(5.7)	(9.43)	(4.13)	(8.32)	(11.72)	(4.18)	(2.93)
3	severe erosion (e3) %	3538	340	734	351	680	786	182	465
		(28.83)	(2.77)	(5.98)	(2.86)	(5.54)	(6.41)	(1.48)	(3.79)
4	very severe erosion (e4) %	23	0	0	0	0	0	23	0
		(0.19)	(0)	(0)	(0)	(0)	(0)	(0.19)	(0)
	Misc %	1186	611	38	20	41	13	311	152
		(9.67)	(4.98)	(0.31)	(0.16)	(0.33)	(0.11)	(2.53)	(1.24)
	Total %	12270	1929	2178	973	1942	2511	1220	1517
		(100)	(15.72)	(17.75)	(7.92)	(15.82)	(20.47)	(9.94)	(12.36)

11. New Watershed Code According to Watershed Atlas of India 1012.

SI No	Old subwatershed code	New Watershed Code
1	Nv4g	5D5A3, 5D5A4
2	Nv4h	5D5A3, 5D5A4
3	Nv4j	5D5A3
4	Nv4k	5D5A3
5	Nv4m	5D5A3
6	Nv4n	5D5A3, 5D5A4
7	Nv4p	5D5A3, 5D5A4

12. Salient features:

- ❖ Out of the total surveyed area of 12,270 ha, about 34.08% (4181ha) area is covered under moderately deep soils followed by 33.73% (4140 ha) under shallow soils and about 22.52% land (i.e. 2763 ha) under deep to very deep soils.
- ❖ About 493 ha (4.02%) of the total is under terraced (0-1%) condition.
- ❖ About 42.48% (5211 ha) of the total surveyed area occurs on very gentle to gentle slope whereas, 9.16% land (1125 ha) area occurs on moderate slopes, 791 ha (6.44%) comes under strong slope.
- ❖ That 46.42% land (5695 ha) of the total surveyed area suffers from moderate erosion hazard and 29.03 % (3561 ha) suffers from severe to very severe erosion hazard which need immediate alteration for Soil-water conservation measures.
- ❖ An area of 4255 ha (34.68%) under forest which is subject to unabated degradation due to illicit felling of trees and also agriculture encroachment needs immediate attention for afforestation programme.

