

Detailed Soil Survey and Land Use Plan of 2B1C7q1, q2, q3, q4, r1, r2, r3, r4, r5, r6, and r7 Microwatersheds of Lower Rapti Subcatchment of Ghaghra Catchment, Tehsil Bhanpur, Rudhauri, District Basti, Tehsil Bansi, District Siddharthnagar and Tehsil Mehdawal, District Sant Kabirnagar, Uttar Pradesh.

ABSTRACT

1. Surveyed Area : Microwatersheds 2B1C7q1, q2, q3, q4, r1, r2, r3, r4, r5, r6 and r7 Microwatersheds of Lower Rapti Subcatchment of Ghaghra Catchment, Tehsil Rudhauri, Bhanpur District Basti, Tehsil Bansi District Siddharthnagar and Tehsil Mehdawal District Sant Kabir Nagar Uttar Pradesh.
2. Total Area Mapped and Reported : 16,062 ha
3. Type of Survey : Detailed Soil Survey
4. Geographical location : a) Latitude 26° 47' 50" to 27° 06' 55" N.
b) Longitude 82° 43' 49" to 82° 57' 53" E
5. Base map used : Cadastral Map on 16"= 1 mile
6. Topomaps used : SOI Toposheets on 1:50,000 scale
63 I/12 , 63 I/16 and 63J/13
7. Agroclimatic Region : IV Middle Gangetic Plain region
8. Period of Survey : February 2011 to April 2011 and March 2013 to April 2013

9. Serieswise distribution of Soil Series and their extent of Area (ha).

S. No.	Name of Series	No. of Mapping Units	2B1C7											Total
			q1	q2	q3	q4	r1	r2	r3	r4	r5	r6	r7	
1	Ardama (AD5)	1	73	13			41	51	83	94	38	122	84	599
			0.5	0.1			0.3	0.3	0.5	0.6	0.2	0.8	0.5	3.7
2	Chesar (CH5)	2	260	210	33	153								656
			1.6	1.3	0.2	1.0								4.1
3	Pipra Govind (PR5)	1	46	3	27									76
			0.3	0.0	0.2									0.5
4	Khaiteria (KH5)	5	77	118	77		279	286	306	332	330	393	236	2434
			0.5	0.7	0.5	0.0	1.7	1.8	1.9	2.1	2.1	2.4	1.5	15.2
5	Masjidia (MJ5)	6	1244	822	879	578		75	29	43				3670
			7.7	5.1	5.5	3.6	0.0	0.5	0.2	0.3				22.8
6	Patwaria (PT5)	6	77	115	209	282								683
			0.5	0.7	1.3	1.8								4.3
7	Tursa (TS5)	4	256	73	25	64								418
			1.6	0.5	0.2	0.4								2.6
8	Baghadiha (BD5)	5			4		99	71	136	6	138	236		690
					0.0		0.6	0.4	0.8	0.0	0.9	1.5		4.3
9	Dharaila (DH)5	4					143	47	213	157				560
							0.9	0.3	1.3	1.0				3.5
10	Mundadiha (MD5)	5					424	555	753	1157	172	304	7	3372
							2.6	3.5	4.7	7.2	1.1	1.9	0.0	21.0
11	Pachari kalan (PK5)	4									50	552	975	1577
											0.3	3.4	6.1	9.8
	Sub total	43	2033	1354	1254	1077	986	1085	1520	1789	728	1607	1302	14735
			12.7	8.4	7.8	6.7	6.1	6.8	9.5	11.1	4.5	10.0	8.1	91.7
	Miscellaneous		159	96	79	68	98	91	162	212	102	122	138	1327
			1.0	0.6	0.5	0.4	0.6	0.6	1.0	1.3	0.6	0.8	0.9	8.3
	G. Total		2192	1450	1333	1145	1084	1176	1682	2001	830	1729	1440	16062
			13.6	9.0	8.3	7.1	6.7	7.3	10.5	12.5	5.2	10.8	9.0	100.0

10. Serieswise Distribution of Area under various Land Capability Units

Sl. No.	Land Capability Unit	Area (ha)	Area (%)	Series
1	II-1	7779	48.5	Chesar, Pipra govind, Khateira, Masjidia, Patwaria, Baghdahiha, Dharijala, Mundadiha, Picharikalan
2	II-2	355	2.2	Patwaria
3	II-3	5237	32.7	Khateira, Masjidia, Tursa, Dharijala, Patwaria, Mundadiha, Picharikalan, Baghdahiha
4	Iie-1	934	5.6	Ardama, Khateira, Patwaria, Baghdahiha, Tursa, Mundadiha, Pacharikalan
5	IIIes-1	430	2.6	Chesar, Khateira, Patwaria, Baghdahiha
	Misc.	1327	8.3	
	Total	16062	100.0	

11. Microwatershedwise Area (ha) under Different Erosion Classes and their percentage

Erosion class	2B1C7											Area (ha)	Area (%)
	q1	q2	q3	q4	r1	r2	r3	r4	r5	r6	r7		
Slight	1922	1324	1254	1013	872	928	1382	1584	680	1470	1205	13634	84.9
Moderate	90	20	0	64	114	157	138	205	48	137	97	1070	6.7
Severe	21	10	0	0								31	0.2
Sub total	2033	1354	1254	1077	986	1085	1520	1789	728	1607	1302	14735	91.7
Misc.	159	96	79	68	98	91	162	212	102	122	138	1327	8.3
G. Total	2192	1450	1333	1145	1084	1176	1682	2001	830	1729	1440	16062	100
	13.6	9.0	8.3	7.1	6.7	7.3	10.5	12.5	5.2	10.8	9.0	100	

12. Microwatershedwise Area (ha) in Depth Class and their percentage

S. No.	Series Name	Microwatersheds of 2B1C7 watershed											Area (ha & %)
		q1	q2	q3	q4	r1	r2	r3	r4	r5	r6	r7	
1	Very deep	2033	1354	1254	1077	986	1085	1520	1789	728	1607	1302	14735
		12.7	8.4	7.8	6.7	6.1	6.8	9.5	11.1	4.5	10.0	8.1	91.7
	Misc.	159	96	79	68	98	91	162	212	102	122	138	1327
		1.0	0.6	0.5	0.4	0.6	0.6	1.1	1.4	0.7	0.8	0.9	8.7
	Grand Total	2192	1450	1333	1145	1084	1176	1682	2001	830	1729	1440	16062
		14.3	9.5	8.7	7.5	7.1	7.7	11.0	13.1	5.4	11.3	9.4	104.9

13 Salient Features of the Area:

- Out of the total surveyed area of 16062 ha, about 14735 ha (91.7%) area is under very deep soils.
- Around 1070 ha (6.7%) area suffer from moderate erosion hazard and 31 ha (0.2%) area suffer severe erosion which needs immediate integrated soil conservation measures.
- About 85.3% area is suitable for agriculture where 1029 ha (6.4%) area is marginally suitable for agriculture.
- Nearly 599 ha (3.7%) area are under agro-horticulture or plantation.

How to Use Soil Survey Report

The report presents findings of the standard Detailed Soil Survey conducted in 2B1C7q1, q2, q3, q4, r1, r2, r3, r4, r5, r6 and r7 Microwatersheds of Lower Rapti Subcatchment of Ghaghra Catchment, Watershed Atlas of India 1990 Tehsil Bhanpur, Rudhauli, District Basti, Tehsil Bansi, District Siddharthnagar and Tehsil Mehdawal, District Sant Kabir Nagar Uttar Pradesh . It provides comprehensive information on the soils of the area, their distribution, classification and inter-relationship. The data presented in this report can be used for various development purposes such as crop planning, preparation of soil and water conservation plans, identification of new areas for afforestation, engineering application, eco-restoration and waste land management etc.

The soil and land capability map is appended with the report. Each soil unit is delineated on the map and represented by a symbolic expression. The abbreviated symbol gives the information about the soil series name, effective depth, surface texture, slope, erosion, stoniness and rockiness. For example, the soil mapping unit AD5 d B2_ represents

- AD - Ardama soil series
- 5 - Depth of soil i.e., very deep (>100 cm) depth class
- d - Surface texture i.e., sandy loam
- B - Soil slope class i.e., very gently sloping (1-3% slope gradient)
- 2 - Soil erosion class i.e., moderate erosion.

The Land Capability Units indicated on the map are suggestive of the potentialities and limitations of the soils of the area. These are described in Chapter-6. The area of interest may be located on the map. Soil mapping units and particulars of interpretative groups may be noted down.

Detailed Soil Series description may be obtained by referring to Chapter 5 “Information on interpretations can be had from Chapter-8. Interested users can have the morphological description of the typifying pedon followed by soil test data from Appendix-II.

For broad soil conservation measures and proposed land use information for project planning Chapter-1 may be referred. The list of all mapping units with area under different microwatersheds and their interpretative grouping such as Land Capability classes, Soil and Land Irrigability, Paddy Soil Groupings, Hydrological Groupings are given in Appendix-I. “The Guide to Soil Mapping Units”. The users can refer to this statement for quick appraisal of the soil and land characteristics of the area surveyed.

The recommendations and suggestions given in report are of broad nature. However for specific site development and treatment local conditions and experience should be made use of.

For further clarification and explanation, communication may be made to:

1. The Chief Soil Survey Officer,
Soil & Land Use Survey of India,
IARI Buildings, Pusa Campus,
New Delhi-110 012.
Phone No. 011-25841263
Fax No. 011-25843811
Email – cso-slusi@nic.in
2. The Soil Survey Officer,
Soil & Land Use Survey of India,
Plot No.32/456, B.A.U Campus, Kanke,
Dist. Ranchi, Jharkhand State,
Pin-834 006.
Phone: 0651-2450 186
Fax No.0651-2450 145
Email – soiljhr@nic.in
Website:- <http://slusi.dacnet.nic.in/>

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