

Detailed Soil Survey and Land Use of 2B4C2a, 2B4C2b, 2B4C2f, B4C2h, 2B4C2j, 2B and 2B4C2z subwatersheds of the Catchment of Jamrani Irrigation Project, Tehsil Nainital, Distt. Nainital(U.P)

ABSTRACT

1. Survey area : a) Catchment of Jamrani Irrigation Project.
b) Hydrologic units
2B4C2a, 2B4C2b, 2B4C2f, 2B4C2h, 2B4C2j, 2B4C2t, 2B4C2u and 2B4C2z sub-watersheds
c) Administrative details
Tehsils - Dhari and Nainital, Distt. Nainital, UP.
d) Geographical details
Latitudes: 29° 13' to 29° 27' N
Longitudes: 79° 35' to 79° 47' E
2. Total area : 15006 ha
3. Type of survey : a) Detailed soil and land use survey.
b) Base map- SOI Topographical map
c) Scale of mapping : 1:12,500
4. Period of Survey : May to July, 1994 and Feb. to March, 1996.
5. Extent of soil series mapped under different subwatershed and their percentage

Sl.No.	Soil Series	Total Area	Subwatersheds							
			2B4C2a	2B4C2b	2B4C2f	2B4C2h	2B4C2j	2B4C2t	2B4C2u	2B4C2z
1	Churigad	787 (5.2)	-	-	-	376 (2.5)	237 (2.5)	174 (1.2)	-	-
2	Dhari	418 (2.8)	-	-	-	-	-	-	-	418 (2.8)
3	Dana Chuli	328 (2.8)	-	-	-	12 (0.1)	-	4	-	312 (2.1)
4	Gumal Gaon	1607 (10.6)	1072 (7.2)	303 (2.0)	232 (1.5)	-	-	-	-	-
5	Heda Khan	205 (1.3)	205 (1.3)	-	-	-	-	-	-	-
6	Jangliya	1406 (9.4)	-	-	-	469 (3.1)	-	-	937 (6.2)	-
7	Kasani	584 (3.8)	-	-	-	128 (0.8)	456 (3.0)	-	-	-
8	Kalagadi	190 (1.2)	-	-	-	179 (1.2)	-	11 (0.1)	-	-
9	Kashiyalack	5196 (34.6)	-	-	-	1065 (7.1)	1652 (11.0)	1032 (6.9)	214 (1.4)	1233 (8.2)
10	Murkuriya	523 (3.4)	-	15 (0.1)	508 (3.4)	-	-	-	-	-
11	Majera	949 (6.3)	-	-	-	147 (1.0)	-	363 (2.4)	130 (0.9)	309 (2.1)
12	Paniya	360 (2.4)	-	270 (1.8)	90 (0.6)	-	-	-	-	-
13	Put Gaon	806 (5.4)	-	-	-	267 (1.8)	535 (3.6)	4	-	-
14	Pokhari	126 (0.8)	-	-	-	68 (0.4)	1	45 (0.3)	12 (0.1)	-
15	Syuda	844 (5.6)	6	838 (5.6)	-	-	-	-	-	-
16	Udwan	41 (0.3)	15 (0.1)	26 (0.2)	-	-	-	-	-	-
Total :		14370 (95.8)	1298 (8.6)	1452 (9.7)	830 (5.6)	2711 (18.0)	2881 (19.2)	1633 (10.9)	1293 (8.7)	2272 (15.2)
Misc.		636 (4.2)	122 (0.8)	82 (0.5)	82 (0.5)	42 (0.3)	61 (0.4)	122 (0.8)	112 (0.7)	13 (0.1)
Grand Total :		16006 (100)	1420 (9.4)	1534 (10.2)	912 (6.0)	2753 (18.4)	2942 (19.6)	1756 (11.7)	1406 (9.4)	2285 (16.3)

- Area in hactare
- Figures in parenthesis indicate percentage value

6 - Sub watershed wise distribution of area under different land capability classes.

Capability class	Total Area	Subwatersheds								Soil Series
		2B4C2a	2B4C2b	2B4C2f	2B4C2h	2B4C2j	2B4C2t	2B4C2u	2B4C2z	
II	910 (6.1)	-	48 (3.1)	-	279 (30.6)	-	8 (0.5)	-	575 (25.2)	Dhari, Dhana chuli, Paniya, Put Gaon
III	1062 (7.1)	-	222 (14.5)	90 (3.3)	14 (1.5)	536 (18.2)	41 (2.3)	4 (0.3)	155 (6.6)	Dhari, Paniya, Pokhri, Put Gaon
IV	2035 (13.5)	220 (15.5)	26 (1.7)	-	508 (55.7)	456 (15.5)	378 (21.5)	138 (9.8)	309 (13.5)	Majera, Pokhri, Udwan, Kalagadi, Kasani
Sub Total	4007 (26.7)	220 (15.5)	296 (19.3)	90 (3.3)	801 (87.8)	992 (33.7)	427 (24.3)	142 (10.1)	1039 (45.5)	
Forest Land	10363 (69.1)	1078 (76.0)	1156 (75.4)	2621 (95.2)	29 (3.2)	1889 (64.2)	1206 (68.7)	1151 (81.9)	1233 (54.0)	
Misc. Land	636 (4.2)	122 (8.5)	82 (5.3)	42 (1.5)	82 (9.0)	61 (2.1)	122 (7.0)	112 (8.0)	13 (0.5)	
Grand Total	15006 (100)	1420 (100)	1534 (100)	2753 (100)	912 (100)	242 (100)	1755 (100)	1405 (100)	2285 (100)	

- Area in hectare
- Figures in parenthesis indicate percentage value

7-Area under different specific problems :

Nature of Problems	Total Area	Subwatersheds								Soil Series
		2B4C2a	2B4C2b	2B4C2f	2B4C2h	2B4C2j	2B4C2t	2B4C2u	2B4C2z	
Moderate Erosion	4697	226	1134	94	464	1524	129	86	1039	Churigad, Dhari, Dhanachuli, Hedakhan, Put Gaon, Pokhri, Syuda, Udwan
Severe Erosion	9674	1072	318	887	2100	1357	1500	1207	1233	Pokhri, Majera, Murkuriya, Kashiylack Kalagadi, Kasani, Jangliya, gumal Gaon, Churigad
Shallow Soil	3013	1072	303	232	469	-	-	937	-	Gumal Gaon, Jangliya

8. Salient features

- Shallow soils cover an area of 3013 ha (20.1%).
- About 8656 (58.3%) ha of the total surveyed area falls under moderately deep soils.
- About 943 (6.3%) ha of the total surveyed area occurs on strongly to steeply (10-33%) sloping terraces and requires efficient soil and water conservation measures for better agricultural use.
- Nearly 4675 (31.2%) ha and 9696 (64.6%) ha area suffer from moderate and severe water erosions respectively as such, the appropriate soil and water conservation measures should be adopted for prevention of SYI to increase the life of reservoir.
- Of the total surveyed area; about 40% is cultivated, 28% lying as culturable waste, 24% under forest and open scrubs, 6% as unculturable waste and rockout crops; 0.3% under temperate fruit orchards and 2% as misc. land.