

Report on Soil Resource Mapping of District Sirmour, Himachal Pradesh

Abstract

1. **Surveyed area** : Sirmour district, Himachal Pradesh
2. **Total area** : 2,82,842 ha
3. **Geographical Extent** : 30°22'30" to 31°01'20" North Latitude
77° 01'12" to 77°49'40" East Longitude
4. **Kind of Survey** : Soil Resource Mapping using Remote Sensing Technique
5. **Soil Series/Association mapped and their extent:**

Sl. No.	Mapping Symbol	Mapping Unit	Series Association	Area (ha)	Area (%)
1	205	ALb2a1	Bhatwali-Kala_Amb-Khala kyar	10366	3.67
2	206	ALb2a2	Bhatwali-Kala_Amb-Khala kyar	294	0.10
3	207	ALb2d1	Bhatwali-Kala_Amb	111	0.04
4	208	ALb2c1	Bhatwali-Kala_Amb	207	0.07
5	209	Alj3a1	Sataun-Chandni-Paranu	2314	0.82
6	210	Alj3a2	Sataun-Chandni	33	0.01
7	211	Alj3c1	Sataun-Chandni	287	0.10
8	212	CMx3a1	Kolar	3991	1.41
9	213	CMx3a2	Kolar	67	0.02
10	214	CMx3d1	Kolar	17	0.01
11	215	CMx3d2	Kolar	36	0.01
12	216	CMx3c1	Kolar	5989	2.12
13	217	CMx3c2	Kolar	173	0.06
14	218	CMo4a1	Majra	787	0.28
15	219	CMo4a2	Majra	128	0.05
16	220	CMo4d2	Majra	259	0.09
17	221	CMo4c1	Majra	4665	1.65
18	222	CMo4c2	Majra	31	0.01
19	223	SDf5a1	Kasaru-Parnagal	1231	0.44
20	224	SDf5a2	Kasaru-Parnagal	311	0.11
21	225	SDf5d1	Kasaru-Parnagal	57	0.02
22	226	SDf5d2	Kasaru-Parnagal	1045	0.37
23	227	SDf5d3	Kasaru-Parnagal	326	0.12
24	228	SDf5c1	Shore-Maihre	9247	3.27
25	229	SDf5c2	Shore-Maihre	2448	0.87
26	230	SDf5c3	Shore-Maihre	407	0.14

27	231	SDf7a1	Naoni-Sherli	5509	1.95
28	232	SDf7a2	Naoni-Sherli	3026	1.07
29	233	SDf7d1	Naoni-Sherli	545	0.19
30	234	SDf7d2	Naoni-Sherli	1527	0.54
31	235	SDf7d3	Naoni-Sherli	1110	0.39
32	236	SDf7c1	Khar-Malgi	28192	9.97
33	237	SDf7c2	Khar-Malgi	10923	3.86
34	238	SDf9a1	Naoni-Sherli	1302	0.46
35	239	SDf9a2	Naoni-Sherli	1369	0.48
36	240	SDf9d1	Naoni-Sherli	907	0.32
37	241	SDf9d2	Naoni-Sherli	83	0.03
38	242	SDf9c1	Naili-Malgi-Khar	13394	4.74
39	243	SDf9c1	Naili-Malgi-Khar	5464	1.93
40	244	SCf5a1	Pasal-Dadahu	205	0.07
41	245	SCf5a2	Pasal-Dadahu	222	0.08
42	246	SCf7a1	Pasal-Dadahu-Jakhari	1805	0.64
43	247	SCf7a2	Pasal-Dadahu-Jakhari	910	0.32
44	248	SCf7d2	Manjoti-Kathog	117	0.04
45	249	SCf7c1	Chopal-Dadahu	434	0.15
46	250	SCf7c2	Chopal-Dadahu	783	0.28
47	251	SCf9a1	Barava-Kathog-Jakhari	785	0.28
48	252	SCf9a2	Barava-Kathog-Jakhari	865	0.31
49	253	SCf9d1	Kathog-Manjoti	934	0.33
50	254	SCf9d2	Kathog-Manjoti	982	0.35
51	255	SCf9c1	Chopal-Dadahu	2078	0.73
52	256	SCf9c2	Chopal-Dadahu	1684	0.60
53	257	SLf5a1	Shenal-Andheri	2227	0.79
54	258	SLf5a2	Shenal-Andheri	204	0.07
55	259	SLf5d1	Andheri-Gahal	315	0.11
56	260	SLf5d2	Andheri-Gahal	595	0.21
57	261	SLf5c1	Ambaun-Gharag	397	0.14
58	262	SLf5c2	Ambaun-Gharag	251	0.09
59	263	SLd7a1	Andheri	79	0.03
60	264	SLd7a2	Andheri	241	0.09
61	265	SLd7d1	Andheri-Gahal	154	0.05
62	266	SLd7d2	Andheri-Gahal	54	0.02
63	267	SLd7c1	Pataigali-Phagu	165	0.06
64	268	SLd7c2	Pataigali-Phagu	323	0.11
65	269	Sle7a1	Shenal-Andheri	522	0.18
66	270	Sle7a2	Shenal-Andheri	306	0.11
67	271	Sle7d1	Andheri-Shenal	152	0.05
68	272	Sle7d2	Andheri-Shenal	147	0.05
69	273	SLf7a1	Andheri-Shenal	14134	5.01
70	274	SLf7a2	Andheri-Shenal	8895	3.14

71	275	SLf7d1	Chhaila-Mandog	7001	2.48
72	276	SLf7d2	Chhaila-Mandog	5629	1.99
73	277	SLf7c1	Pataigali-Phagu-Panti	11260	3.98
74	278	SLf7a2	Pataigali-Phagu	5829	2.06
75	279	SLd9a1	Borli-Andheri	110	0.04
76	280	SLd9a2	Borli-Andheri	492	0.17
77	281	SLd9d2	Haripur_dhar-Mandog	488	0.17
78	282	SLd9c1	Kufri-Sainj	2206	0.78
79	283	SLd9c2	Kufri-Sainj	455	0.16
80	284	Sle9a1	Andheri-Borli	170	0.06
81	285	Sle9a2	Andheri-Borli	477	0.17
82	286	Sle9d1	Haripur_dhar-Mandog	1725	0.61
83	287	Sle9d2	Haripur_dhar-Mandog	430	0.15
84	288	Sle9c1	Dhanohi-Mandoli	2036	0.72
85	289	Sle9c2	Dhanohi-Mandoli	1109	0.39
86	290	SLf9a1	Andheri-Borli	6574	2.32
87	291	SLf9c2	Andheri-Borli	1934	0.68
88	292	SLf9d1	Mandog-Haripur_dhar	6864	2.43
89	293	SLf7d2	Mandog-Haripur_dhar	5329	1.88
90	294	SLf9c1	Renuka_ji-Dhanohi-Panti	36090	12.78
91	295	SLf9c2	Renuka_ji-Dhanohi-Jablog	9318	3.29
92	296	LSf7a1	Kamrau-Mananha	285	0.10
93	297	LSf7a2	Kamrau-Mananha	131	0.05
94	298	LSf7d1	Kamrau-Mananha	382	0.14
95	299	LSf7d2	Kamrau-Mananha	37	0.01
96	300	LSf7c1	Kamrau-Mananha	2633	0.93
97	301	LSf7c2	Kamrau-Mananha	208	0.07
98	302	LSf9a1	Kamrau-Mananha	1178	0.42
99	303	LSf9a2	Kamrau-Mananha	616	0.22
100	304	LSf9d1	Kamrau-Mananha	493	0.17
101	305	LSf9d1	Kamrau-Mananha	236	0.08
102	306	LSf9c1	Kamrau-Mananha	3475	1.23
103	307	LSf9c2	Kamrau-Mananha	813	0.29
104	308	QZf7c1	Palu-Birpa	169	0.06
105	7676	Rock out crops		150	0.05
106	7878	Open Mines		239	0.08
107	9898	Habitation		557	0.20
108	9999	Waterbodies		6571	2.32
Total				282842	100.00

6. Spatial Extent of Landscape/Physiographic Classes

Landscape	Physiography	Area (ha)	Area (%)
Alluvium	Alluvial plains	10978	3.88
Alluvium	River terraces	2634	0.93
Conglomerate	Foot hill slopes	5870	2.08
Conglomerate	Piedmont planes	10273	3.63
Limestone	Undifferentiated hills side slope	131	0.05
Limestone	Undifferentiated mountain side	10356	3.66
Quartzite	Undifferentiated mountain side	169	0.06
Sandstone	Undifferentiated mountain side	88423	31.26
Schist	Undifferentiated mountain side	11804	4.17
Slate	Mountain-northern slopes	4767	1.69
Slate	Mountain-southern slopes	7074	2.50
Slate	Undifferentiated mountain side	122846	43.43
Miscellaneous area		7517	2.66
Total		282842	100.00

7. Spatial Extent of Slope Classes

Slope classes and code	Slope Range	Area (ha)	Area (%)
nearly level to very gently sloping (1)	0-3%	10978	3.88
Very gently sloping to gently sloping (3)	1-5%	12907	4.56
Gently sloping to moderate sloping (4)	3-10%	5870	2.08
Moderately sloping to strongly sloping (5)	5-15%	19488	6.89
Moderately steep to steep sloping (7)	15-33%	113617	40.17
Very steep to extremely steep (9)	33-50% and above	112465	39.76
Miscellaneous area		7517	2.66
TOTAL		282842	100.00

8. Spatial Extent of Major Land Use/ Land Cover

Major Land Use	Area (ha)	Area (%)
Agriculture (a)	74095	26.20
Forest (c)	163143	57.68
Open scrub (d)	38087	13.47
Miscellaneous area	7517	2.66
TOTAL	282842	100.00

9. Spatial Extent of Soil Erosion Classes

Erosion	Area (ha)	Area (%)
None to slight water erosion	1012	0.36
Slight to moderate erosion (e1-e2)	26212	9.27
Moderate water erosion (e2)	215715	76.27
Moderate to severe erosion (e2-e3)	13499	4.77
Severe erosion ((e3)	17192	6.08
Severe to Very severe erosion (e3-e4)	1436	0.51
Miscellaneous area	7517	2.66
TOTAL	282842	100.00

10. Spatial Extent of Land Capability Classes

Land Capability Classes (LCC)	Area (ha)	Area (%)
Land Capability Class – II	10660	3.77
Land Capability Class - III	6405	2.26
Land Capability Class - IV	1258	0.24
Land Capability Class - IV	57030	20.16
Land Capability Class - VI	2878	1.02
Land Capability Class - VII	35209	12.45
Forest	163143	57.68
Miscellaneous area	7517	2.66
TOTAL	282842	100.00

11. Soils of the area have been classified under three Orders i.e. Entisols and Inceptisols and all the forty seven Soil Series identified in the area have been further classified into three Suborders; three Great Groups; five Subgroups and twenty two Families.