

Report on Soil Resource Mapping of District Shimla, Himachal Pradesh

Abstract

1. **Surveyed area** : Shimla district, Himachal Pradesh
2. **Total area** : 5,14,320 ha
3. **Geographical Extent** : 30° 45'48" - 30°43' 00" North latitude
76° 59' 22" - 78° 18' 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	124	ALb3a1	Bhatwali-Kala_Amb-Khala_Kyar	211	0.04
2	125	ALj4a1	Paranu-Chandni-Sataun	437	0.08
3	126	ALj4a2	Paranu-Chandni-Sataun	154	0.03
4	127	ALj4d2	Paranu-Sataun	75	0.01
5	128	SCf5a1	Pasal-Ruana-Manjoti	818	0.16
6	129	SCf5a2	Pasal-Ruana-Manjoti	422	0.08
7	130	SCf5d2	Pasal-Ruana	6	0.00
8	131	SCf5c1	Ruana-Manjoti-Pasal	98	0.02
9	132	SCf7a1	Dadahu-Pasal-Jakhari	7143	1.39
10	133	SCf7a2	Dadahu-Pasal-Jakhari	17298	3.36
11	134	SCf7d1	Manjoti-Ruana	2943	0.57
12	135	SCf7d2	Manjoti-Ruana	6768	1.32
13	136	SCf7c1	Chopal-Dadahu	15620	3.04
14	137	SCf7c2	Chopal-Dadahu	12438	2.42
15	138	SCf9a1	Barava-Ruana	5651	1.10
16	139	SCf9a2	Barava-Ruana	13743	2.67
17	140	SCf9d1	Ruana-Manjoti	5035	0.98
18	141	SCf9d2	Ruana-Manjoti	9112	1.77
19	142	SCf9c1	Renuka_ji-Dhanohi	48509	9.43
20	143	SCf9c2	Renuka_ji-Dhanohi	26231	5.10
21	144	SCd5a1	Dadahu-Pasal	56	0.01
22	145	SCd5c1	Chopal-Dadahu	7	0.00
23	146	SCd5c2	Chopal-Dadahu	314	0.06
24	147	SCd7a1	Dadahu-Pasal	127	0.02
25	148	SCd7a2	Dadahu-Pasal	1126	0.22

26	149	SCd7d1	Pasal-Dadahu	100	0.02
27	150	SCd7d2	Pasal-Dadahu	154	0.03
28	151	SCd7c1	Chopal-Dadahu	1044	0.20
29	152	SCd7c2	Chopal-Dadahu	2727	0.53
30	153	SCd9a1	Dadahu-Pasal	92	0.02
31	154	SCd9a2	Dadahu-Pasal	1458	0.28
32	155	SCd9d1	Pasal-Dadahu	281	0.05
33	156	SCd9d2	Pasal-Dadahu	327	0.06
34	157	SCd9c1	Chopal-Dadahu	6277	1.22
35	158	SCd9c2	Chopal-Dadahu	6037	1.17
36	159	SCe5a1	Dadahu-Pasal	58	0.01
37	160	SCe5a2	Dadahu-Pasal	35	0.01
38	161	SCe5d1	Pasal-Dadahu	14	0.00
39	162	SCe7a1	Dadahu-Pasal	434	0.08
40	163	SCe7a2	Dadahu-Pasal	791	0.15
41	165	SCe7d2	Pasal-Dadahu	391	0.08
42	166	SCe7c1	Chopal-Dadahu	72	0.01
43	167	SCe7c2	Chopal-Dadahu	1004	0.20
44	168	SCe9a1	Dadahu-Pasal	1701	0.33
45	169	SCe9a2	Dadahu-Pasal	471	0.09
46	170	SCe9d1	Pasal-Dadahu	22	0.00
47	171	SCe9d2	Pasal-Dadahu	4175	0.81
48	172	SCe9c1	Chopal-Dadahu	871	0.17
49	173	SCe9c2	Chopal-Dadahu	1880	0.37
50	174	SLf5a1	Shenal-Sungal	962	0.19
51	175	SLf5a2	Shenal-Sungal	130	0.03
52	176	SLf5d2	Sungal-Gahal	153	0.03
53	177	SLf5c1	Ambaun-Gharag	150	0.03
54	178	SLf5c2	Ambaun-Gharag	437	0.08
55	179	SLf7a1	Sungal-Shenal	12014	2.34
56	180	SLf7a2	Sungal-Shenal	16355	3.18
57	181	SLf7d1	Sungal-Gahal	5023	0.98
58	182	SLf7d2	Sungal-Gahal	8241	1.60
59	183	SLf7c1	Pataigali-Phagu	14792	2.88
60	184	SLf7c2	Pataigali-Phagu-Panti	12480	2.43
61	185	SLf9s1	Sungal-Borli	2178	0.42
62	186	SLf9a2	Sungal-Borli	2723	0.53
63	187	SLf9d1	Mandog-Haripur_dhar	2287	0.44
64	188	SLf9d2	Mandog-Haripur_dhar	3756	0.73
65	189	SLf9c1	Renuka_ji-Dhanohi	10771	2.09
66	190	SLf9c2	Renuka_ji-Dhanohi	7211	1.40
67	191	SLd7a1	Sungal	33	0.01
68	192	SLd7a2	Sungal	84	0.02

69	193	SLd7d1	Sungai-Gahal	34	0.01
70	194	SLd7d2	Sungai-Gahal	43	0.01
71	195	SLd7c2	Pataigali-Phagu	84	0.02
72	196	SLd9d1	Haripur_dhar-Mandog	300	0.06
73	197	SLd9c2	Kufri-Sainj	1056	0.21
74	198	Sle7a1	Shenal-Sungai	336	0.07
75	199	Sle7a2	Shenal-Sungai	570	0.11
76	200	Sle7d2	Sungai-Shenal	371	0.07
77	201	Sle7c2	Sungai-Shenal	113	0.02
78	202	Sle9a2	Sungai-Borli	540	0.10
79	203	Sle9d2	Haripur_dhar-Mandog	512	0.10
80	204	Sle9c2	Dhanohi-Mandog	322	0.06
81	1124	ALb3a1	Bhatwali-1-Kala_Amb-1-Khala_Kyar-1	147	0.03
82	1125	ALj4a1	Paranu-1-Chandni-1	781	0.15
83	1126	ALj4a2	Paranu-1-Chandni-1	63	0.01
84	1127	ALj4d2	Paranu-1-Sataun-1	96	0.02
85	1128	SCf5a1	Pasal-1-Ruana-1	326	0.06
86	1129	SCf5a2	Pasal-1-Ruana-1	676	0.13
87	1130	SCf5d2	Pasal-1-Ruana-1	40	0.01
88	1132	SCf7a1	Dadahu-1-Pasal-1	6346	1.23
89	1133	SCf7a2	Dadahu-1-Pasal-1	5236	1.02
90	1134	SCf7d1	Manjoti-1-Ruana-1	3443	0.67
91	1135	SCf7d2	Manjoti-1-Ruana-1	3319	0.65
92	1136	SCf7c1	Chopal-1-Dadahu-1	6300	1.22
93	1137	SCf7c2	Chopal-1-Dadahu-1	4953	0.96
94	1138	SCf9a1	Barava-1-Ruana-1	2335	0.45
95	1139	SCf9a2	Barava-1-Ruana-1	2312	0.45
96	1140	SCf9d1	Ruana-1-Manjoti-1	7499	1.46
97	1141	SCf9d2	Ruana-1-Manjoti-1	2559	0.50
98	1142	SCf9c1	Renuka_ji-1-Dhanohi-1	18013	3.50
99	1143	SCf9c2	Renuka_ji-1-Dhanohi-1	40694	7.91
100	1147	SCd7a1	Dadahu-1-Pasal-1	22	0.01
101	1149	SCd7d1	Pasal-1-Dadahu-1	85	0.02
102	1150	SCd7d2	Pasal-1-Dadahu-1	558	0.11
103	1151	SCd7c1	Chopal-1-Dadahu-1	2454	0.48
104	1152	SCd7c2	Chopal-1-Dadahu-1	2572	0.50
105	1154	SCd9a2	Dadahu-1-Pasal-1	217	0.04
106	1155	SCd9d1	Pasal-1-Dadahu-1	801	0.16
107	1156	SCd9d2	Pasal-1-Dadahu-1	100	0.02
108	1157	SCd9c1	Chopal-1-Dadahu-1	17229	3.36
109	1158	SCd9c2	Chopal-1-Dadahu-1	5943	1.16
110	1162	SCe7a1	Dadahu-1-Pasal-1	591	0.11
111	1163	SCe7a2	Dadahu-1-Pasal-1	418	0.08

112	1164	SCe7d1	Pasal-1-Dadahu-1	168	0.03
113	1165	SCe7d2	Pasal-1-Dadahu-1	123	0.02
114	1166	SCe7c1	Chopal-1-Dadahu-1	5951	1.16
115	1167	SCe7c2	Chopal-1-Dadahu-1	3670	0.71
116	1168	SCe9a1	Dadahu-1-Pasal-1	67	0.01
117	1169	SCe9a2	Dadahu-1-Pasal-1	123	0.02
118	1170	SCe9d1	Pasal-1-Dadahu-1	198	0.04
119	1171	SCe9d2	Pasal-1-Dadahu-1	391	0.08
120	1173	SCe9c2	Chopal-1-Dadahu-1	314	0.06
121	8282	Snow cover/Cloud cover data		55166	10.74
122	9898	Habitation		1082	0.21
123	9999	Waterbodies		2120	0.40
Total				514320	100.00

6. Spatial Extent of Landscape/Physiographic Classes

Landscape	Physiography	Area (ha)	Area (%)
Alluvium (AL)	Alluvial plains (ALb)	358	0.07
Alluvium (AL)	River terraces (ALj)	1606	0.31
Schist (SC)	Mountain-northern slopes (SCd)	50108	9.74
Schist (SC)	Mountain-southern slopes (SCe)	23933	4.65
Schist (SC)	Undifferentiated mountain side (SCf)	275886	53.64
Slate (SL)	Mountain-northern slopes (SLd)	1634	0.32
Slate (SL)	Mountain-southern slopes (SLe)	2764	0.54
Slate (SL)	Undifferentiated mountain side (SLf)	99663	19.38
Snow cover/Cloud cover data		55166	10.74
Miscellaneous area		3202	0.61
Total		514320	100.00

7. Spatial Extent of Slope Classes

Slope classes and code	Slope Range	Area (ha)	Area (%)
Very gently sloping to gently sloping (3)	1-5%	358	0.07
Gently sloping to moderate sloping (4)	3-10%	1606	0.31
Moderately sloping to strongly sloping (5)	5-15%	4702	0.91
Moderately steep to steep sloping (7)	15-33%	186962	36.35
Very steep to extremely steep (9)	33-50% and above	262324	51.00
Snow cover/Cloud cover data		55166	10.74
Miscellaneous area		3202	0.61
TOTAL		514320	100.00

8. Spatial Extent of Major Land Use/ Land Cover

Major Land Use	Area (ha)	Area (%)
Agriculture (a)	107811	20.96
Forest (c)	278638	54.18
Open scrub (d)	69503	13.51
Snow cover/Cloud cover data	55166	10.74
Miscellaneous area	3202	0.61
TOTAL	514320	100.00

9. Spatial Extent of Soil Erosion Classes

Erosion	Area (ha)	Area(%)
None to slight water erosion	1576	0.31
Slight to moderate erosion (e1-e2)	36288	7.06
Moderate water erosion (e2)	242514	47.15
Moderate to severe erosion (e2-e3)	116325	22.62
Severe erosion ((e3)	54256	10.55
Severe to Very severe erosion (e3-e4)	4993	0.97
Snow cover/Cloud cover data	55166	10.74
Miscellaneous area	3202	0.61
TOTAL	514320	100.00

10. Spatial Extent of Land Capability Classes

Land Capability Classes (LCC)	Area (ha)	Area (%)
Land Capability Class – II-III	1576	0.31
Land Capability Class - III	217	0.04
Land Capability Class - III-IV	1258	0.24
Land Capability Class - IV	104760	20.37
Land Capability Class - VI	185	0.04
Land Capability Class - VII	69318	13.48
Forest	278638	54.18
Snow cover/Cloud cover data	55166	10.74
Miscellaneous area	3202	0.61
TOTAL	514320	100.00

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