

ABSTRACT

- 1. Surveyed Area** : Inventory of Rapid Reconnaissance Soil Survey for Prioritization of Microwatersheds of 1C1A & 1C1B Subcatchment of Ravi Catchment (1C1), Districts- Doda, Kathua, Samba, Udhampur of Jammu & Kashmir; District-Chamba of Himachal Pradesh and Districts-Amritsar, Gurdaspur and Tarantaran of Punjab State
- 2. Location** : 31°25'53" to 32°51'58" North Latitudes and 74°29'15" to 76°01'19" East Longitudes
- 3. Total Area Surveyed** : 647968 ha
- 4. Kind of Survey** : Rapid Reconnaissance Survey
- 5. Period of Survey** : January, 2010 to June, 2011
- 6. Agro climatic zone** : Western Himalayan Region - I & Tans-Ganga Plain Region -VI
- 7. Base Maps** : Survey of India Toposheets on 1:50,000 scale
- 8. Hydrological division** :
- 1 Region
 - 1C Basin
 - 1C1 Catchment
 - 1C1A & B Subcatchments
 - 1C1A1 Watersheds
 - 1C1A1a, b ... Subwatersheds
 - 1C1A1a1, 2 ... Microwatersheds

9. Areal Extent of Different Erosion Intensity Mapping Units (EIMUs)

Sl. No.	EIMU	Weightage Value	Delivery Ratio	Area in ha	Percentage
1	AL01	14	0.59	18234	2.81%
2	AL02	14	0.59	147165	22.71%
3	AL03	14	0.57	681	0.11%
4	AL04	12	0.54	72140	11.13%
5	AL05	15	0.68	985	0.15%
6	AL06	13	0.56	11152	1.72%
7	AL07	14	0.60	6456	1.00%
8	AL08	13	0.58	38402	5.93%
9	AL09	12	0.56	2380	0.37%
10	AL10	14	0.58	38292	5.91%
11	AL11	12	0.56	23553	3.63%
12	AL12	16	0.77	1773	0.27%
13	CG01	15	0.64	420	0.06%
14	CG02	18	0.72	284	0.04%
15	CG03	16	0.64	2393	0.37%
16	CG04	16	0.70	4179	0.64%
17	CG05	17	0.71	2559	0.39%
18	CG06	20	0.82	1135	0.18%
19	CG07	22	0.92	7507	1.16%
20	CG08	17	0.69	532	0.08%
21	CG09	19	0.77	18350	2.83%
22	CM01	14	0.61	513	0.08%
23	CM02	15	0.64	744	0.11%
24	CM03	16	0.68	13072	2.02%
25	CM04	16	0.66	8605	1.33%
26	CM05	18	0.76	6360	0.98%
27	CM06	18	0.75	18863	2.91%
28	CM07	21	0.87	11046	1.70%
29	CO01	13	0.57	36067	5.57%
30	CO02	14	0.61	22457	3.47%
31	CO03	14	0.60	489	0.08%
32	CO04	18	0.81	8080	1.25%
33	SD01	15	0.63	4711	0.73%
34	SD02	15	0.63	1829	0.28%
35	SD03	18	0.73	1701	0.26%
36	SD04	17	0.70	13889	2.14%
37	SD05	17	0.69	6239	0.96%
38	SD06	19	0.77	30183	4.66%
39	SD07	19	0.79	4081	0.63%
40	SD08	22	0.87	13820	2.13%
41	SD09	22	0.93	5047	0.78%
42	HB	0	0.00	15346	2.37%
43	Tank	0	0.00	334	0.05%
44	River	0	0.00	25920	4.00%
Grand Total				647968	100.00

10. Soil Erosion Hazards

Districts	EROSION CLASS						
	Slight to Moderate erosion	Moderate erosion	Moderate to Severe erosion	Severe erosion	Severe to Very severe erosion	Very severe erosion	Misc.
JAMMU & KASHMIR							
Doda	4	-	-	-	-	-	-
Kathua	10493	131525	4781	11983	19684	865	18474
Samba	-	16200	1494	3830	286		1735
Udhampur	4883	22753	-	889	2980	197	73
HIMACHAL PRADESH							
Chamba		4663	658	232	8864	3985	642
PUNJAB							
Amritsar	48182	110590	3351	-	-	-	10092
Gurdaspur	76301	100689	3517	120	559	-	10584
Tarantaran	3184	8626	-	-	-	-	-
Total area	143047	395046	13801	17054	32373	5047	41600
<i>Percentage</i>	<i>22.08</i>	<i>60.97</i>	<i>2.13</i>	<i>2.63</i>	<i>5</i>	<i>0.78</i>	<i>6.42</i>

11. District wise distribution of Microwatersheds under different priority categories

Watershed	Very High		High		Medium		Low		Very Low		Total of MWS	Total Sum of Area (ha)
	No. of MWS	Area (ha)	No. of MWS	Area (ha)	No. of MWS	Area (ha)	No. of MWS	Area (ha)	No. of MWS	Area (ha)		
Amritsar												
1C1A1	-	-	-	-	-	-	-	-	122	87800	122	87800
1C1A2	-	-	-	-	-	-	-	-	79	61359	79	61359
1C1A3	-	-	-	-	-	-	-	-	37	23056	37	23056
<i>Total</i>	-	-	-	-	-	-	-	-	238	172215	238	172215
Chamba												
1C1B4	38	17835	6	1203	3	6	-	-	-	-	47	19044
<i>Total</i>	38	17835	6	1203	3	6	-	-	-	-	47	19044
Doda												
1C1B2	-	-	-	-	-	-	1	4	-	-	1	4
<i>Total</i>	-	-	-	-	-	-	1	4	-	-	1	4
Gurdaspur												
1C1A1	-	-	-	-	-	-	-	-	5	1989	5	1989
1C1A2	-	-	-	-	-	-	-	-	108	94933	108	94933
1C1A3	-	-	-	-	-	-	-	-	70	36131	70	36131
1C1B1	-	-	-	-	-	-	-	-	19	9328	19	9328
1C1B3	1	541	1	410	3	1780	-	-	42	25012	47	27743
1C1B4	4	605	11	8392	3	490	2	1442	11	10717	31	21646
<i>Total</i>	5	1146	12	8802	6	2270	2	1442	255	178110	280	191770
Kathua												
1C1B1	26	21937	5	4987	8	7285	4	3594	58	42710	101	80513
1C1B2	43	29361	6	4864	3	1533	7	4621	17	14636	76	55015

1C1B3	-	-	-	-	-	-	-	-	6	1354	6	1354
1C1B4	32	20596	17	12151	18	14689	9	6925	12	6562	88	60923
Total	101	71894	28	22002	29	23507	20	15140	93	65262	271	197805
Samba												
1C1B1	6	1559	2	604	7	5395	8	6233	14	9754	37	23545
Total	6	1559	2	604	7	5395	8	6233	14	9754	37	23545
Tarantaran												
1C1A1	-	-	-	-	-	-	-	-	23	11810	23	11810
Total	-	-	-	-	-	-	-	-	23	11810	23	11810
Udhampur												
1C1B2	47	27929	4	2336	1	841	1	669	-	-	53	31775
Total	47	27929	4	2336	1	841	1	669	-	-	53	31775
Grand Total	197	120363	52	34947	46	32019	32	23488	623	437151	950	647968

12. Distribution of Area under Different Priority Categories

Sl No	Priority Category	No of MWS	Total Area (ha)	Percentage
1	Very High (1300 and above)	161	120363	18.58
2	High (1200-1299)	43	34947	5.39
3	Medium (1100-1199)	39	32019	4.94
4	Low (1000-1099)	29	23488	3.62
5	Very Low (Below 1000)	559	437151	67.46
Grand total		831	647968	100.00

13. Salient Features:

- ⇒ Delineation and codification is done up to microwatersheds level in order to have viable size of the treatment area having district spatial extent and unique national code.
- ⇒ Out of the total 647968 ha area only 204 ha falls under very high and high category.
- ⇒ 161 microwatersheds falls under very high priority with 120363 ha (18.58%) and 43 microwatersheds under high priority category of 34947 ha (5.39%) which needs immediate attention for proper soil and water conservation.
- ⇒ About 54474 ha area (8.41%) is prone for very severe to severe erosion and 13801 ha (2.13%) is prone for moderate to severe erosion hazards.
- ⇒ Alluvial plain occupies nearly 224540 ha and 178062 ha are mapped as hills of the total surveyed area.
- ⇒ Very deep soils covers an area of 397280 ha 61.31% of the total surveyed area.

HOW TO USE SOIL SURVEY REPORT

The report embodies the results of Rapid Reconnaissance Survey conducted for identification and delineation of priority microwatersheds of Ravi Catchment (1C1) of Districts- Doda, Kathua, Samba, Udhampur of Jammu & Kashmir; District-Chamba of Himachal Pradesh and Districts-Amritsar, Gurdaspur and Tarantaran of Punjab State covering an area of 647968 ha spread over 950 microwatersheds. The priorities are fixed on the basis of Silt Yield Index (SYI). Higher the values of Silt Yield Index suggest higher priority and vice versa. The concerned maps on the scale of 1:50,000 are appended with the report. It also furnishes information on general characteristics of the area such as, location and extent, physiography, relief, drainage, geology, climate, present landuse, natural vegetation, water supply and soils of the area.

In the map, each microwatershed is marked by a symbol like '1C1A1a1' etc. where '1' stands for water resource region, '1C' indicates basin, '1C1' for catchment, '1C1A' for subcatchment, '1C1A1' for watershed, '1C1A1a' for subwatershed and '1C1A1a 1' for microwatershed. Within each microwatershed, the Erosion Intensity Mapping Units (EIMUs) are demarcated according and symbolized by capital English alphabets, based on geological origin of the land 'AL' stands for Alluvium and their further subdivisions are made on the basis of land and soil characteristics. Each unit connotes a set of physiography, slope, landuse, soil characteristics such as soil depth, colour, texture, severity of erosion and management practices. Mapping units are assigned with respective weightage value and delivery ratio of different microwatersheds has been categorized as very high, high, medium, low and very low priority areas according to silt yield index value.

The mapping legends furnished in the Table-4 and differentiating characteristics of each mapping units represented in Table-5.

The details of computation made for determining sediment yield index of various microwatersheds are furnished in Annexure-I and the information of relative priority of microwatersheds in descending order of grading are furnished in Annexure-II.

Microwatersheds categorized under very high and high priority are selected for treatment of degraded lands of these microwatersheds under RVP scheme. Both treatable and non-treatable lands are occupied by each priority (very high and high category) microwatersheds. The ratio of treatable and non-treatable lands in a priority microwatershed varies with the kind, degree and extent of the degraded lands occupied by the some microwatersheds.

For further clarification, information or comments contact may be made to:

Chief Soil Survey Officer
Soil & Land Use Survey of India
I.A.R.I. Campus
New Delhi - 110012
Tel. No. - 011-25843811, 25841263, 25849486
Fax No. - 011-25843811
e-mail: csso-slusi@nic.in

or

Sr. Soil Survey Officer
Soil & Land Use Survey of India
Noida Centre
C - 4, Sector - 1, NOIDA
Gautam Budha Nagar (U. P.) - 201301
Tel. No. - 0120-2442694, 2544804
Fax No. - 0120-2442694
e-mail: ssonoida-slusi@nic.in

Website: <http://slusi.dacnet.nic.in>