

ABSTRACT

- 1. Surveyed Area** : Inventory of Rapid Reconnaissance Survey for Prioritization of Microwatersheds in 1A1B, 1A1C and 1A1D of Lower Sutlej FPR Subcatchments of 1A1 Catchment, Districts- Barnala, Fatehgarh Sahib, Firozpur, Hoshiarpur, Jalandhar, Kapurthala, Ludhiana, Moga, Mohali, Nawashahr, Rupnagar, Sangrur and Tarn Taran, Punjab State, District- Bilaspur, Kangra, Solan and Una, Himachal Pradesh State and District- Panchkula, Haryana State.
- 2. Location** : 26°59'20" to 30°14'05" North Latitude
79°28'20" to 81°36'02" East Longitude
- 3. Total Area Surveyed** : 1525685 ha
- 4. Kind of Survey** : Rapid Reconnaissance Survey
- 5. Period of Survey** : April, 2008 to June, 2008
- 6. Agro climatic zone** : Trans-Ganga Plains Region-VI (also called the Satluj-Yamuna Plains)
- 7. Base Maps** : Survey of India Toposheets on 1:50,000 scale
- 8. Hydrological division** :
- | | |
|----------------|-----------------|
| 1 | Region |
| 1A | Basin |
| 1A1 | Catchment |
| 1A1B | Subcatchment |
| 1A1B1 | Watersheds |
| 1A1B1a, b ... | Subwatersheds |
| 1A1B1a1, 2 ... | Microwatersheds |

9. Areal Extent of Different Runoff Potential Mapping Units (RPMUs)

Sl.No.	RPMU	Runoff Potential Value	Area (ha)	Percentage
1	AL01	54	120918	7.93
2	AL02	55	115883	7.60
3	AL03	55	142920	9.38
4	AL04	57	428583	28.12
5	AL05	55	17751	1.16
6	AL06	58	24878	1.63
7	AL07	79	32928	2.16
8	AL08	55	26044	1.71
9	AL09	58	20015	1.31
10	AL10	54	103601	6.80
11	AL11	55	115410	7.57
12	AL12	53	529	0.03
13	AL13	54	8317	0.55
14	AL14	60	18439	1.21
15	AL15	56	3258	0.21
16	CM01	58	3911	0.26
17	CM02	65	5210	0.34
18	CM03	90	5558	0.36
19	CM04	84	87	0.01
20	CM05	61	3629	0.24
21	CM06	55	10818	0.71
24	SD01	85	32154	2.11
25	SD02	87	33627	2.21
26	SD03	75	13873	0.91
27	SD04	84	19363	1.27
28	SD05	88	38224	2.51
29	SD06	69	21035	1.38
30	SD07	82	7795	0.51
31	SD08	77	6789	0.45
32	SD09	62	4248	0.28
33	SD10	59	24959	1.64
34	SD11	58	24418	1.60
35	WB	Water Body	386	0.03
22	H	Habitation	56489	3.71
23	River	River	32027	2.10
		Grand total	1524074	100.00

10. Soil Erosion Hazards

Erosion	Area (ha)	Percentage	Punjab												Himachal Pradesh				Haryana	
			Barnala	Fatehgarh Sahib	Firozpur	Hoshiarpur	Jalandhar	Kapurthala	Ludhiana	Moga	Mohali	Nawanshahr	Rupnagar	Sangrur	Tarn Taran	Bilaspur	Kangra	Solan	Una	Panchkula
e1	1142376	74.96	1666	25616	136503	84868	183840	27155	282144	137529	16257	103908	88947	3211	525	302		13640	32339	4211
e 1-e2	24959	1.64				1292					1113	1272	8346			1318		6562	5056	
e 2	53790	3.53			3643	9031	9938	573	10	3474	447	1026	1256			1615	9	9028	13353	387
e 2-e3	43080	2.83				12609					5980	4434	7280					2887	8338	1552
e 3	124948	8.20			12	12759	1526	2926			1029	2212	10535			8493	156	32241	52016	1043
e 3-e4	46019	3.02				13735						7648	10134			3397	6	2015	9082	2
Misc	88902	5.83		988	7161	6123	12552	1143	31237	3344	314	5879	10215	118	295	120		3263	4851	1014
G. Total	1524074	100.0	1666	26604	147319	140417	207856	31797	313391	144347	25140	126379	136713	3329	820	15245	171	69636	125035	8209

Where:

e1- None to slight erosion, e1-e2- Slight to Moderate erosion, e- Moderate erosion, e2-e3- Moderate to Severe erosion, e3- Severe erosion, e3-e4- Severe to Very severe erosion

11. District wise distribution of Microwatersheds under different priority categories

State	District	Priority Category	No. of Microwatersheds	Total Area (ha)	Percentage
Haryana	Panchkula	H	16	1751	0.11
		L	15	1800	0.12
		M	5	427	0.03
		VH	43	2445	0.16
		VL	12	1786	0.12
	Total			91	8209
Total			91	8209	0.54
Himachal Pradesh	Bilaspur	H	30	1359	0.09
		L	3	154	0.01
		M	10	178	0.01
		VH	124	13554	0.89
	Total		167	15245	1.00
	Kangra	VH	18	171	0.01
	Total		18	171	0.01
	Solan	H	78	9677	0.63
		L	56	5556	0.36
		M	104	9932	0.65
VH		361	43988	2.89	
VL		6	483	0.03	
Total		605	69636	4.57	

State	District	Priority Category	No. of Microwatersheds	Total Area (ha)	Percentage
	Una	H	230	20086	1.32
		L	174	14691	0.96
		M	216	19249	1.26
		VH	664	68337	4.48
		VL	29	2672	0.18
	Total			1313	125035
Total			2103	210087	
Punjab	Barnla	L	4	899	0.06
		VL	8	767	0.05
	Total		12	1666	0.11
	Fatehgarh Sahib	L	30	14854	0.97
		VL	36	11750	0.77
	Total		66	26604	
	Firozpur	L	93	16844	1.11
		VL	355	130475	8.56
	Total		448	147319	9.67
	Hoshiarpur	H	84	13346	0.88
		L	293	63456	4.16
		M	119	18277	1.20
		VH	149	25611	1.68
		VL	106	19727	1.29
	Total		751	140417	9.21
	Jalandhar	L	516	146223	9.59
		M	14	1105	0.07
		VH	2	150	0.01
		VL	248	60378	3.96
	Total		780	207856	13.64
	Kapurthala	H	3	337	0.02
		L	110	23889	1.57
		M	24	4740	0.31
		VH	2	290	0.02
		VL	19	2541	0.17
	Total		158	31797	2.09
	Ludhiana	L	274	76053	4.99
VL		787	237338	15.57	
Total		1061	313391	20.56	
Moga	L	226	62197	4.08	
	VL	298	82150	5.39	
Total		524	144347	9.47	

State	District	Priority Category	No. of Microwatersheds	Total Area (ha)	Percentage	
	Mohali	H	20	1584	0.10	
		L	61	13747	0.90	
		M	30	4730	0.31	
		VH	21	5079	0.33	
	Total			132	25140	1.65
	Nawanshahr	H	17	2388	0.16	
		L	339	89552	5.88	
		M	33	3169	0.21	
		VH	87	12644	0.83	
		VL	89	18626	1.22	
	Total			565	126379	
	Rupnagar	H	119	10200	0.67	
		L	391	70013	4.59	
		M	138	14224	0.93	
		VH	221	24643	1.62	
		VL	117	17633	1.16	
	Total			986	136713	8.97
	Sangrur	L	4	872	0.06	
		VL	15	2457	0.16	
	Total			19	3329	0.22
	Tarn Taran	L	7	364	0.02	
		VL	10	456	0.03	
	Total			17	820	0.05
	Total			5519	1305778	85.68
Grand Total			7713	1524074	100.00	

12. Distribution of Area under Different Priority Categories

Sl.No.	Priority Category	No. of Microwatersheds	Area (ha.)	Percentage
1	Very High (above 70)	382	196912	12.92
2	High (66-70)	116	60728	3.98
3	Medium (61-65)	138	76031	4.99
4	Low (56-60)	799	601164	39.44
5	Very Low (55 & below)	805	589239	38.66
Grand Total		2240	1524074	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 2240 microwatersheds surveyed 498 falls under very high and high category.
- ⇒ 382 microwatersheds falls under very high priority with 196912 ha (12.92%) and 116 microwatersheds with 60728 ha (3.98%) comes under high priority categories which needs immediate attention for soil and water conservation.
- ⇒ About 46019 ha (3.02 %) is prone for severe to very severe erosion and 124948 ha (8.20 %) is prone for severe erosion hazards.
- ⇒ Alluvial plain occupies an area 808304 ha (53.04%), Undifferentiated hill side slope occupies nearly 178505 ha (11.71%) and 13369 ha (0.88%) is mapped as hill top of the total surveyed area.
- ⇒ Maximum area comes under very deep soils covers an area of 1218621 ha (79.96%) followed by very shallow to shallow 157470 ha (10.33%) and moderately deep to deep 34122 ha (2.24%), respectively