

**Report on Demarcation of Priority Micro watersheds in Veshev and Sandran
Catchments of Jehlum Basin, Anantnag and Udhampur District, Jammu and Kashmir**

ABSTRACT

1. *Survey Area* : *Veshev and Sandran Catchments of Jehlum Basin, Anantnag and Udhampur District, Jammu and Kashmir*
2. *Location* : *33° 21'36" to 33° 49'48" N Latitude
74° 38'24" to 75°26'24" E Longitude*
3. *Total Area* : *1,40,368 ha*
4. *Period of field visit* : *May, 2003 to June,2003*
5. *Type of Survey* : *Rapid Reconnaissance Survey
using Remote Sensing Technique*
6. *Base Material* : *Survey of India Toposheets (1:50,000) and
Geocoded FCC (4, 3, 2) of IRS-D LISS-III*
7. *Areal Extent of different Erosion Intensity Mapping Units :*

<i>Sl.No.</i>	<i>Erosion Intensity Mapping Unit</i>	<i>Weightage Value</i>	<i>Delivery Ratio</i>	<i>Area In ha.</i>	<i>Area In %age</i>
1	A1	13	0.58	5563	3.96
2	A2	12	0.55	4298	3.06
3	A3	12	0.56	1438	1.02
4	K1	13	0.59	14384	10.25
5	K2	16	0.66	11384	8.11
6	K3	16	0.67	15170	10.81
7	K4	23	0.84	8238	5.87
8	K5	18	0.76	727	0.52
9	L1	15	0.68	15643	11.14
10	L2	17	0.77	20494	14.60
11	L3	20	0.84	19335	13.77
12	L4	14	0.65	2555	1.82
13	L5	16	0.72	3530	2.51
14	L6	20	0.80	2224	1.58
15	L7	17	0.71	5859	4.17
16	SN	10	0.50	8439	6.01
17	HA			132	0.09
18	TK			135	0.10
19	RI			820	0.58
	Total			140368	100.00

8. *Hydrological Divisions* : *Water Resource Region (1)
Basin (1E)
Catchment (1E1)
Subcatchment (1E1C)
Watersheds (1E1C8 & 1E1C9)
Sub watersheds (1E1C8a.b.c....., 1E1C9a, b, c.....)
Micro watersheds (1E1C8a1, 1E1C8b1)*

9. Soil Erosion Hazard

Sl. No.	Erosion Class	Area in ha.	Percentage
1	None to Slight erosion	11299	8.05
2	Slight to Moderate erosion	30027	21.39
3	Moderate erosion	2555	1.82
4	Moderate to Severe erosion	56437	40.21
5	Severe erosion	22286	15.88
6	Severe to Very severe erosion	8238	5.87
7	Miscellaneous	9526	6.79
	Grand Total	140368	100.00

10. Priority Categorization :

Sl. No.	Priority Category	No. of Microwatersheds	Area in ha.	Percentage
1	Very High (1300 and above)	58	42262	30.11
2	High (1200-1299)	26	16915	12.05
3	Medium (1100-1199)	23	16033	11.42
4	Low (1000-1099)	35	23317	16.61
5	Very Low (Below 1000)	61	41841	29.81
	Grand Total	203	140368	100.00

11. Salient Features:

- *Veshev and Sandran Catchments of Jhelum Basin have been subdivided into 203 microwatersheds following the delineation and codification method outlined in Watershed Atlas of India.*
- *Out of 1, 40,368 hectares surveyed area, 42,262 ha. (30.11%) spread over 58 micro watersheds have been categorized under very high priority area and 16,915 ha. (12.05%) covered by 26 microwatersheds have been categorized under high priority area.*
- *About 45% of the surveyed area is under notified forest and 38% is under cultivation. About 40% of the surveyed area are having extremely steep (above 50%) slope most of which are degraded forest.*
- *About 22% surveyed area is susceptible to severe to very severe erosion.*

HOW TO USE SOIL SURVEY REPORT

This report on prioritization of microwatersheds of Veshev and Sandran catchments of Jehlum basin (1E1C8 and 1E1C9 watersheds of Watershed Atlas of India) aims at identifying the microwatersheds which are relatively more prone to soil erosion and need immediate suitable soil and water conservation measures. Further, it furnishes information on general characteristics of the Catchments with particular reference to their location and extent, physiography, relief and drainage, geology, climate, land use and soils of the area also. The report is the outcome of rapid reconnaissance survey carried out in two catchments of Jehlum basin which covers an area of 40,534 ha. and spreads over 203 microwatersheds.

The catchments of Jehlum basin are delineated and codified following the codification system of Watershed Atlas of India (WAI) published by All India Soil & Land Use Survey in September, 1990. The surveyed area comprises two watersheds (1E1C8 and 1E1C9) of WAI which are subdivided into 30 subwatershed and finally into 203 microwatersheds. Subwatersheds are codified by suffixing small case English alphabets with the watershed code e.g. 1E1C8a, 1E1C8b etc and microwatersheds are codified by affixing Arabic numerals with the subwatershed code, e.g., 1E1C8a1, 1E1C8b1 etc. Within a microwatershed, Erosion Intensity Mapping Units (EIMUs) are demarcated and symbolized with alphanumeric codes viz. A1, A2 etc. The erosion intensity mapping units are established by visual interpretation of False Color Composites (FCC) of IRS-1D LISS-III followed by field verification. The EIMUs represent the landscape, physiography, slope, soil characteristics, existing soil conservation status, land use and severity of erosion of each mapping unit. These erosion intensity mapping units are described in the ANNEXURE-I on 'Legend to Erosion Intensity Mapping Units'. Each of these units are assigned its weightage value and delivery ratio, which indicate the susceptibility for erosion (soil detachment) and run off potential (transportation) from the microwatershed respectively. Differentiating morphological characteristics of the Erosion Intensity Mapping Units have been depicted in the ANNEXURE-II. Based on weightage value, delivery ratio and the extent of EIMU in a microwatershed, the Sediment Yield Indices (SYI) of all microwatersheds are computed which is given in the ANNEXURE-III.

The relative priorities are assigned based upon the Sediment Yield Indices (SYI) of the microwatersheds. Higher the value of Sediment Yield Index (SYI) indicates higher priority where as the lower value indicates lower priority. The findings are given in ANNEXURE-IV.

Eight map sheets on 1:50,000 scale depicting the drainage network, hydrological units, erosion intensity mapping units, and soil and administrative boundaries are appended with this report. The very high and high priority microwatersheds are shown on the maps by vertical and horizontal hachuring for the benefit of the users. For any further clarification, information or comments contact may be made to:

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