

ABSTRACT

- 1. Surveyed Area** : Prioritization of Microwatersheds of Middle Ganga Catchment (2B5) of Aligarh, Allahabad, Auraiya, Chandauli, Etah, Fatehpur, Firozabad, Hardoi, Hathras, Jaunpur, Kannauj , Kanpur Dehat, Kanpur, Kaushambi ,Mainpuri, Mirzapur, Pratapgarh, Rae Bareli, Sant Ravidas Nagar ,Unnao and Varanasi. districts of Uttar Pradesh State
- 2. Location** : 25°06'35" to 27°45'25" North Latitudes and 78°18'64" to 83°11'26" East Longitudes
- 3. Total Area Surveyed** : 1748010 ha
- 4. Kind of Survey** : Rapid Reconnaissance Survey
- 5. Period of Survey** : January, 2010 to July, 2011
- 6. Agro climatic zone** : Middle Gangetic Plain Region (IV)
- 7. Base Maps** : Survey of India Toposheets on 1:50,000 scale
- 8. Hydrological division** :
- 2 Region
 - 2B Basin
 - 2B5 Catchment
 - 2B5 A,B & C Subcatchments
 - 2B5A1 Watersheds
 - 2B5A1a, b ... Subwatersheds
 - 2B5A1a1, 2 ... Microwatersheds

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

S.No.	RPMU	Runoff Potential Value	Area in ha	Percentage
1	AL01	54	110678	6.33%
2	AL02	56	427765	24.47%
3	AL03	55	71210	4.07%
4	AL04	67	11207	0.64%
5	AL05	56	462490	26.46%
7	AL06	58	12742	0.73%
8	AL07	55	70508	4.03%
9	AL08	56	20109	1.15%
10	AL09	62	112553	6.44%
11	AL10	62	25174	1.44%
12	AL11	57	11559	0.66%
13	AL12	54	183397	10.49%
14	AL13	56	98715	5.65%
16	AL14	54	3073	0.18%
17	AL15	58	7216	0.41%
18	HB	0	44049	2.52%
19	River	0	70304	4.02%
20	Tank	0	5261	0.30%
Grand Total			1748010	100.00

10. Soil Erosion Hazards

Districts	EROSION				Misc.
	None to slight erosion	Slight to Moderate erosion	Moderate to Severe erosion	Severe erosion	
Aligarh	824	0	0	0	0
Allahabad	148226	25579	1942	26525	15590
Auraiya	15198	362	0	2182	93
Chandauli	0	0	0	0	873
Etah	62132	0	1371	80	1231
Fatehpur	71412	1420	356	7456	5148
Firozabad	6922	0	140	0	26
Hardoli	29470	7383	6965	396	1965
Hathras	13152	0	0	0	290
Jaunpur	94143	22241	0	9632	3
Kannauj	121156	1832	1117	6540	3661
Kanpur	137121	2513	459	23724	23166
Kanpur Dehat	24534	715	209	2724	499
Kaushambi	27806	1164	1892	6098	4376
Mainpuri	103444	0	0	3783	3028
Mirzapur	23591	628	1286	1697	6704
Pratapgarh	46013	5729	1	5487	4761
Rae Bareli	78819	1548	6331	9019	7267

Sant Ravidas Nagar	86121	3401	106	5760	5787
Unnao	214052	6183	14046	8910	19059
Varanasi	80517	2552	512	3747	16087
Total Area (ha)	1384653	83250	36733	123760	119614
Percentage	79.21	4.76	2.1	7.08	6.84

11. District wise distribution of Microwatersheds area under different priority categories

Districts	Priority Category							
	High		Low		Medium		Very Low	
	<i>Full</i>	<i>Part</i>	<i>Full</i>	<i>Part</i>	<i>Full</i>	<i>Part</i>	<i>Full</i>	<i>Part</i>
Aligarh	0	0	0	0	0	0	0	824
Allahabad	7045	0	142790	27351	5688	0	29402	5586
Auraiya	0	0	10681	5372	1782	0	0	0
Chandauli		3	0	707	0	0	0	163
Etah	0	0	32371	6641	0	0	20128	5674
Fatehpur	0	0	21888	28120	0	3233	30550	2001
Firozabad	0	0	0	1861	0	0	1678	3549
Hardoli	2759	0	23160	6794	4283	776	7521	886
Hathras	0	0	3772	495	0	0	6526	2649
Jaunpur	0	0	86491	20874	0	0	17412	1242
Kannauj	0	0	112423	17279	1067	44	3493	
Kanpur	3585	1658	104643	51130	3354	2878	17363	2372
Kanpur Dehat	0	0	5483	13200	0	38	8868	1092
Kaushambi	0	0	21397	12605	2415	4873	0	46
Mainpuri	0	0	67823	5236	0	0	35473	1723
Mirzapur	0	0	18804	13308	0	1794	0	0
Pratapgarh	0	0	28852	18673	0	1937	6809	5720
Rae Bareli	0	0	66407	22181	603	3778	4902	5113
Sant Ravidas Nagar	0	0	60858	34081	0	305	3189	2742
Unnao	0	57	131395	23817	3456	5417	87848	10260
Varanasi	3182	1055	70967	24243	2248	45	601	1074
Total Area (ha)	16571	2773	1010205	333968	24896	25118	281763	52716

12. District wise distribution of area (ha) under different Runoff Potential Mapping Units (RPUU)

Districts	RPMU																	
	AL01	AL02	AL03	AL04	AL05	AL06	AL07	AL08	AL09	AL10	AL11	AL12	AL13	AL14	AL15	HB	River	Tank
Aligarh	0	0	0	0	0	0	0	0	0	0	0	824	0	0	0	0	0	0
Allahabad	18170	45289	6651	1846	67034	3	25576	5119	24679	1831	111	5544	419	0	0	4631	10202	757
Auraiya	87	0	0	0	6300	0	362		2182	0	0	761	8050	0	0	93	0	0
Chandauli	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	873	0
Etah	0	20661	216		14095	0	0	0	80	1371	0	23871	1599	0	1690	803	0	428
Fatehpur	19791	18816	17048	1604	11999	703	717	11	5852	356	0	3747	0	0	0	277	4767	104
Firozabad	0	0	0	0	1774	0	0	0	0	140	0	5148	0	0	0	0	0	26
Hardoli	3297	13406	4780		6196	3170	4213	0	396	6587	378	0	1470	219	102	636	1131	198
Hathras	0	781	0	0	4301	0	0	0	0	0	0	7470	600	0	0	229	0	61
Jaunpur	3394	4113	0	0	84880	0	22241	82	9632	0	0	1674	0	0	0	0	0	3
Kannauj	3679	27058	0	857	36552	958	874		5683	450	667	712	52252	654	249	913	1856	892
Kanpur	3141	35271	1936	467	51358	615	1898	414	23257	459	0	21065	23839	97	0	13025	9859	282
Kanpur Dehat	727	1357	62	0	8370	0	715	290	2724	209	0	12332	1396	0	0	346	130	23
Kaushambi	0	14913	342	1829	12551	1164	0	0	4269	212	1680	0	0	0	0	590	3786	0
Mainpuri	1944	49981	0	0	11683	0	0	0	3783	0	0	28271	7710	1843	2012	1887	333	808
Mirzapur	0	16705	0	1401	6886	628	0	0	296	0	1286	0	0	0	0	728	5976	0
Pratapgarh	634	10355	15771	302	14032	465	5264	1032	5185	1	0	3866	0	0	323	918	3059	784
Rae Bareli	8324	10154	2209	1610	43167	1548	0	0	7409	6145	186	14965	0	0	0	436	6831	0
Sant Ravidas Nagar	5651	31795	0	291	36959	0	3401	11716	5469	80	26	0	0	0	0	1956	3764	67
Unnao	41839	64665	22195	644	27147	3488	2695	579	8266	7333	6713	53147	1380	260	2840	3604	14657	798
Varanasi	0	62445	0	356	17206	0	2552	866	3391	0	512	0	0	0	0	12977	3080	30
Total Area (ha)	110678	427765	71210	11207	462490	12742	70508	20109	112553	25174	11559	183397	98715	3073	7216	44049	70304	5261
<i>Percentage</i>	<i>6.33</i>	<i>24.47</i>	<i>4.07</i>	<i>0.64</i>	<i>26.46</i>	<i>0.73</i>	<i>4.03</i>	<i>1.15</i>	<i>6.44</i>	<i>1.44</i>	<i>0.66</i>	<i>10.49</i>	<i>5.65</i>	<i>0.18</i>	<i>0.41</i>	<i>2.52</i>	<i>4.02</i>	<i>0.3</i>

13. Distribution of Area under Different Priority Categories

Sl.No.	Priority Category	No. of Microwatersheds	Area in ha	Percentage
1	High (66-70)	22	19344	1.11
2	Medium (61-65)	58	50014	2.86
3	Low (56-60)	1656	1344173	76.90
4	Very Low (55 & below)	392	334479	19.13
Grand Total		2128	1748010	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 2128 microwatersheds, 22 microwatersheds falls under high category.
- ⇒ 22 microwatersheds falls under high priority with 19344 ha (1.11%) which needs immediate attention for proper soil and water conservation.
- ⇒ About 123760 ha area (7.08 %) is prone for severe erosion and 36733 ha (2.10 %) is prone for moderate to severe erosion hazards.
- ⇒ Alluvial plain occupies nearly 1072143 ha (65.84%) and 135319 ha (8.31 %) are mapped as river/stream banks of the total surveyed area.
- ⇒ Only very deep soils covers an area of 1628396 ha (93.16%) 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 Middle Ganga Catchment (2B5) of Aligarh, Allahabad, Auraiya, Chandauli, Etah, Fatehpur, Firozabad, Hardoi, Hathras, Jaunpur, Kannauj, Kanpur Dehat, Kanpur, Kaushambi, Mainpuri, Mirzapur, Pratapgarh, Rae Bareilly, Sant Ravidas Nagar, Unnao and Varanasi districts of Uttar Pradesh State covering an area of 1748010 ha spread over 2128 microwatersheds. The priorities are fixed on the basis of Runoff Potential Index (RPI). Higher the values of Runoff Potential 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 land use, natural vegetation, water supply and soils of the area.

In the map, each microwatershed is marked by a symbol like '2B5A1a1' etc. where '2' stands for water resource region, '2B' indicates basin, '2B5' for catchment, '2B5A' for subcatchment, '2B5A1' for watershed, '2B5A1a' for subwatershed and '2B5A1a 1' for microwatershed. Within each microwatershed, the Runoff Potential Mapping Units (RPMUs) 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, land use, soil characteristics such as soil depth, colour, texture, severity of erosion and management practices. Mapping units are assigned with respective runoff potential weightage value of different microwatersheds have been categorized as very high, high, medium, low and very low priority areas according to runoff potential 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 district wise runoff potential 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 FPR 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:

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