

Demarcation of Priority Microwatersheds of 2C3B, 2C3C and 2C3E (Part) Subcatchments of Betwa RVP Catchment, Chhatarpur, Raisen, Sagar and Tikamgarh districts, Madhya Pradesh and Hamirpur, Jhansi , Lalitpur and Mahoba districts, Uttar Pradesh

ABSTRACT

- 1. Surveyed Area** : 2C3B, 2C3C and 2C3E (Part) Subcatchments of Betwa RVP Catchment, Chhatarpur, Raisen, Sagar and Tikamgarh districts, M. P. and Hamirpur, Jhansi, Lalitpur and Mahoba districts, U. P.
- 2. Location** : 23°29' to 25°46' North Latitude and 78°18' to 79°34' East Longitude
- 3. Total Area Surveyed** : 15,59,521 ha
- 4. Kind of Survey** : Rapid Reconnaissance Survey
- 5. Period of Survey** : January, 2005 to July, 2007
- 6. Agro climatic zone** : VIII-Central Plateau & Hills Region
- 7. Base Maps** : Survey of India Toposheets on 1:50,000 scale
- 8. Hydrological division** :
- | | |
|----------------|-----------------|
| 2 | Region |
| 2C | Basin |
| 2C3 | Catchment |
| 2C3B | Subcatchment |
| 2C3C | |
| 2C3E | |
| 2C3B1-9 | Watersheds |
| 2C3C1-7 | |
| 2C3E1-5 | |
| 2C3B1a, b ... | Subwatersheds |
| 2C3B1a1, 2 ... | Microwatersheds |

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

Sl. No.	EIMU	Weightage Value	Delivery Ratio	Area in ha	Percentage (%)
1	A01	14	0.64	24760	1.59
2	A02	14	0.66	32098	2.06
3	A03	16	0.63	855	0.05
4	A04	17	0.69	7430	0.48
5	A05	20	0.79	3962	0.25
6	A06	19	0.73	10660	0.68
7	A07	18	0.72	4488	0.29
8	A08	14	0.61	7089	0.45
9	B01	18	0.75	1580	0.10
10	B02	18	0.73	2964	0.19
11	B03	15	0.62	5410	0.35
12	B04	18	0.69	3640	0.23
13	B05	21	0.88	18459	1.18
14	B06	21	0.86	6081	0.39
15	B07	19	0.81	1165	0.07
16	B08	20	0.77	2060	0.13
17	B09	20	0.78	6040	0.39
18	B10	18	0.75	7146	0.46
19	B11	15	0.62	107072	6.87
20	B12	14	0.59	79107	5.07
21	B13	18	0.78	1305	0.08
22	B14	17	0.67	1330	0.09
23	B15	14	0.60	1644	0.11
24	B16	16	0.65	18151	1.16
25	B17	20	0.75	39180	2.51
26	G01	21	0.96	18892	1.21
27	G02	21	0.90	33813	2.17
28	G03	19	0.82	5314	0.34
29	G04	17	0.73	13557	0.87
30	G05	17	0.69	949	0.06
31	G06	15	0.62	2044	0.13
32	G07	18	0.74	7984	0.51
33	G08	18	0.71	36754	2.36
34	G09	15	0.62	24454	1.57
35	G10	18	0.72	37994	2.44
36	G11	16	0.62	41897	2.69
37	G12	16	0.67	182646	11.71
38	G13	14	0.59	126271	8.10
39	G14	16	0.65	46757	3.00
40	G15	17	0.70	24104	1.55
41	G16	18	0.71	34721	2.23
42	G17	14	0.60	20381	1.31
43	G18	16	0.65	203633	13.06
44	G19	17	0.70	34728	2.23

45	S01	17	0.72	1269	0.08
46	S02	17	0.71	7609	0.49
47	S03	14	0.63	52482	3.37
48	S04	15	0.64	836	0.05
49	S05	21	0.90	8993	0.58
50	S06	19	0.83	21643	1.39
51	S07	19	0.75	20153	1.29
52	S08	16	0.68	18294	1.17
53	S09	18	0.75	548	0.04
54	S10	18	0.75	12917	0.83
55	S11	18	0.77	2184	0.14
56	S12	16	0.69	14972	0.96
57	S13	15	0.63	12347	0.79
58	S14	17	0.70	11645	0.75
59	S15	14	0.58	1319	0.08
60	S16	16	0.64	711	0.05
61	S17	13	0.58	9447	0.61
62	S18	15	0.62	24930	1.60
63	S19	18	0.72	3980	0.26
64	S20	19	0.74	5274	0.34
65	S21	14	0.60	6795	0.44
66	S22	18	0.71	1642	0.11
67	S23	19	0.75	853	0.05
68	DAM	0	0.00	5613	0.36
69	Hab	0	0.00	12156	0.78
70	RIVER	0	0.00	368	0.02
71	ROC	0	0.00	29	0.00
72	WB	0	0.00	9943	0.64
Grand Total				1559521	100.00

10. Soil Erosion Hazards

Erosion	Total area (ha)	Percentage	M.P.				U.P.			
			CHHATARPUR	RAISEN	SAGAR	TIKAMGARH	HAMIRPUR	JHANSI	LALITPUR	MAHOBA
Non to slight	249343	15.99	45058	899	37772	47829	878	4795	108868	3244
Slight to Moderate	52479	3.37	19198	-	110	9059	3232	16852	2139	1889
Moderate	282585	18.12	42658	980	118995	34378	2659	13388	68346	1181
Moderate to Severe	547834	35.13	102720	1796	47837	183876	-	88871	116207	6527
Severe	297625	19.08	31135	3813	51580	105807	1407	66935	33387	3561
Severe to Very severe	52364	3.36	3858	-	1303	15878	4065	11770	12654	2836
Very severe	49182	3.15	-	333	13941	-	1210	2368	30946	384
Misc.	28109	1.8	2583	-	6077	7579	178	4282	7387	23

11. District wise distribution of Microwatersheds under different priority categories

State	District Name	Priority Category	No. of Microwatersheds	Total area ha	Percentage	
M.P.	CHHATARPUR	Very High	7	7546	0.48	
		High	37	39026	2.50	
		Medium	52	54494	3.49	
		Low	83	81316	5.21	
		Very Low	63	64828	4.16	
	Total			242	247210	15.85
	RAISEN	Very High	7	3608	0.23	
		High	4	3851	0.25	
		Medium	1	362	0.02	
	Total			12	7821	0.50
	SAGAR	Very High	46	52157	3.34	
		High	31	27148	1.74	
		Medium	43	42203	2.71	
		Low	60	64177	4.12	
		Very Low	75	91930	5.89	
	Total			255	277615	17.80
	TIKAMGARH	Very High	30	38073	2.44	
		High	60	75841	4.86	
		Medium	96	109819	7.04	
		Low	122	133659	8.57	
		Very Low	54	47014	3.01	
Total			362	404406	25.93	
U.P.	HAMIRPUR	Very High	3	102	0.01	
		High	7	6199	0.40	
		Medium	6	2569	0.16	
		Low	2	2653	0.17	
		Very Low	3	2106	0.14	
	Total			21	13629	0.87
	JHANSI	Very High	32	37449	2.40	
		High	29	20630	1.32	
		Medium	54	49108	3.15	
		Low	80	81605	5.23	
		Very Low	24	20469	1.31	
	Total			219	209261	13.42
	LALITPUR	Very High	16	18034	1.16	
		High	19	16549	1.06	
		Medium	64	76581	4.91	
		Low	105	120466	7.72	
		Very Low	120	148304	9.51	
	Total			324	379934	24.36
	MAHOBA	Very High	4	187	0.01	
		High	6	2026	0.13	
		Medium	8	6673	0.43	
Low		11	6559	0.42		
Very Low		6	4200	0.27		
Total			35	19645	1.26	
Grand Total			1470	1559521	100.00	

12. Distribution of Area under Different Priority Categories

Sl. No.	Priority Category	No. of Microwatersheds	Area in ha	Percentage (%)
1	Very High (1300 and above)	122	157156	10.08
2	High (1200-1299)	145	191270	12.26
3	Medium (1100-1199)	262	341809	21.92
4	Low (1000-1099)	376	490435	31.45
5	Very Low (Below 1000)	288	378851	24.29
	Grand Total	1193	1559521	100.00

13. Salient Features:

- ⇒ Delineation and codification is done up to microwatersheds level in order to have viable size of the treatment area.
- ⇒ Out of the total 1193 microwatersheds, 267 microwatersheds fall under very high and high category.
- ⇒ 122 microwatersheds falls under very high priority with 157156 ha (10.08%) and 145 microwatersheds with 191270 ha (12.26%) comes under high priority categories which needs immediate attention for proper soil and water conservation.
- ⇒ About 399171 ha (25.59%) is prone for severe to very severe erosion and 547834 ha (35.13%) is prone for moderate to severe erosion hazards.
- ⇒ Hill side slope occupies nearly 108808 ha (6.97 %) and 479504 ha (30.75%), 323745 (20.76%) is mapped as pediplain and peneplain of the total surveyed area.
- ⇒ Very deep to deep soils covers maximum an area of 869120 ha and fallows moderately deep 325670 ha respectively and together constitutes 76.61 % of the total surveyed area.