

Report on Prioritization of Microwatersheds of 4E2E1-5 Watersheds in 4E2E (Boordhing) Subcatchment of 4E2 Indravati (R.V.P) Catchment in Bastar, Dhamtari and Kanker Districts of Chhattisgarh and Nabrangpur District of Odisha State.

ABSTRACT

1. **Surveyed Area** : 4E2E1-5 watersheds of 4E2E Boordhing Subcatchment of 4E2 Indravati R.V.P Catchment in Bastar, Dhamtari and Kanker districts of Chhattisgarh and Nabrangpur district of Odisha State.
2. **Location** : a) Latitude 19° 03' to 20° 07' N.
b) Longitude 81° 17' to 82° 02' E.
3. **Total Area** : 3,27,748 ha.
4. **Agroclimatic Region** : Eastern plateau and hills region (Zone - VII)
5. **Type of Survey** : Rapid Reconnaissance Survey for Prioritization of Microwatersheds.
6. **Period of Survey** : January 2005 to June 2005
7. **Base Material used** : Survey of India Topographical maps on 1:50,000 scale.
8. **Hydrological Sub division** : a) Region – '4' (All drains flowing into Bay of Bengal except those Ganges and Brahmaputra)
b) Basin - '4E' (Godavari River Basin)
c) Catchment – '4E2' (Indravati Catchment)
d) Sub-Catchment – '4E2E' (Boordhing Subcatchment)
e) Watersheds – '4E2E 1 to E5'
f) Subwatersheds – 4E2E 1a, 4E2E 1b,..... to 4E2E 5a, 4E2E 5b, ...4E2E 5n
g) Microwatersheds – 545

9. Extent of Area (in ha) under Different Erosion Intensity Mapping Units (EIMU)

Sl. No	EIMU	Weightage Value	Delivery Ratio	Area (ha)	Area %
1	A01	13	0.58	7793	2.4
2	C01	16	0.66	2904	0.9
3	C02	19	0.75	15740	4.8
4	C03	19	0.78	62289	19.0
5	C05	16	0.68	19761	6.0
6	C06	18	0.71	7759	2.4
7	C07	16	0.68	21686	6.6
8	C08	14	0.61	106760	32.6
9	C10	14	0.60	66419	20.3
10	C11	14	0.59	5677	1.7
11	C12	18	0.73	449	0.1
12	C13	17	0.72	260	0.1
13	C14	17	0.70	363	0.1
	SubTotal			317860	97.00
	Misc			9888	3.0
	Grand Total			327748	100.0

10. Districtwise Distribution of Area (in ha) under Different Erosion Intensity Mapping Units (EIMU).

Sl. No	EIMU	Chhattisgarh			Odisha Nabran gpur	Total	Percentage of Area
		Bastar	Dhamtari	Kanker			
1	A01	7790		3		7793	2.4
2	C01	2414		490		2904	0.9
3	C02	13458		2282		15740	4.8
4	C03	58909		3380		62289	19.0
5	C05	15346		4395	20	19761	6.0
6	C06	5951		778	1030	7759	2.4
7	C07	21504		14	168	21686	6.6
8	C08	79421	845	15709	10785	106760	32.6
9	C10	48057	352	12955	5055	66419	20.3
10	C11	4506	95	177	899	5677	1.7
11	C12	449				449	0.1
12	C13	260				260	0.1
13	C14	363				363	0.1
	SubTotal	258428	1292	40183	17957	317860	97
	Misc	6389	75	1744	1680	9888	3.0
	Total	264817	1367	41927	19637	327748	100.0

11. Districtwise Distribution of Area (in ha) under Different Soil Erosion Hazard.

Sl. No	EIMU	Chhattisgarh			Odisha	Total Area (%)
		Bastar	Dhamtari	Kanker	Nabrangpur	
1	None to slight erosion	12296	95	180	899	13470
		(3.8)	(0.0)	(0.1)	(0.3)	(4.1)
2	Moderate erosion	127478	1197	28664	15840	173179
		(38.9)	(0.4)	(8.7)	(4.8)	(52.8)
3	Moderate to Severe erosion	112703		10561	188	123452
		(34.4)	-	(3.2)	(0.1)	(37.7)
4	Severe erosion	5951		778	1030	7759
		(1.8)	-	(0.2)	(0.3)	(2.4)
5	Misc. Land	6389	75	1744	1680	9888
		(1.9)	(0.0)	(0.5)	(0.5)	(3.0)
	Total	264817	1367	41927	19637	327748
		(80.8)	(0.4)	(12.8)	(6.0)	(100.0)

12. Priority Categorization

Sl. No.	Priority Category	No. of Microwatersheds	Area (in ha)	Area %
1	Very High (1300 and above)	91	50755	15.5
2	High (1200-1299)	41	22112	6.8
3	Medium (1100-1199)	52	30966	9.5
4	Low (1000-1099)	71	44443	13.6
5	Very Low (Below 1000)	290	179472	54.8
	Grand Total	545	327748	100.00

13. Watershedwise Distribution of Area (in ha) under Different Priority Categories.

Sl. No.	Priority Category	Watersheds (in ha)					Total	Percentage of Area
		4E2E1	4E2E2	4E2E3	4E2E4	4E2E5		
1	Very High (1300 and above)	33440	13797	0	2668	850	50755	15.5
2	High (1200-1299)	10957	7131	1341	1939	744	22112	6.8
3	Medium (1100-1199)	6322	9373	5488	7192	2591	30966	9.5
4	Low (1000-1099)	3678	12360	10824	10279	7302	44443	13.6
5	Very Low (Below 1000)	2317	22807	74175	44972	35201	179472	54.8
	Grand Total	56714	65468	91828	67050	46688	327748	100.00
	Percentage	17.3	20.0	28.0	20.5	14.2	100.0	

14. Districtwise Distribution of Area (in ha) under Different Priority Categories.

Sl. No	Priority Category	No. of Microwatersheds	Chhattisgarh			Odisha	Total	Percentage of Area
			Bastar	Dhamtari	Kanker	Nabrangpur		
1	Very High (1300 and above)	91	49090	-	1665	-	50755	15.5
2	High (1200-1299)	41	20878	-	1234	-	22112	6.8
3	Medium (1100-1199)	52	26994	-	3972	-	30966	9.5
4	Low (1000-1099)	71	39818	-	4625	-	44443	13.6
5	Very Low (Below 1000)	290	128037	1367	30431	19637	179472	54.8
	Grand Total	545	264817	1367	41927	19637	327748	100.0
	Percentage		80.8	0.4	12.8	6.0	100.0	

15 Salient Features of the Area:

- The survey area consists of 545 microwatersheds covering 3,27,748 ha. Out of which 91 microwatersheds have been demarcated under very high priority category covering 50,755 ha (15.5%) and 41 microwatersheds spreading over 22,112 ha (6.8%) are under high priority category.
- 132 microwatersheds covering about 72,867 ha (22.3%) under very high and high priority categories need immediate attention for suitable soil water conservation measures under integrated watershed development programme.
- 3,08,111 ha of survey area is under Chhattisgarh, out of which 72,867 ha constituting 22.3% of Chhattisgarh have been demarcated under very high and high priority category.
- 4E2E1 and 4E2E2 watersheds has the maximum number of very high priority category microwatersheds followed by 4E2E4 and 4E2E5 watersheds. Maximum number of high priority microwatersheds has been identified in 4E2E1 and 4E2E2 watershed followed by 4E2E4 and 4E2E3 watersheds.
- About 8,382 ha (2.6%) of survey area remains unmanaged while 41,896 (12.8%) area is unmanaged to poorly managed.
- Severely eroded lands occupy 7,759 ha (2.67%) while moderately to severely eroded lands occupy 1,23,452 ha (37.7 %). These lands needs proper soil-waters conservation practices.
- About 1,52,916 ha (46.66%) of total survey area is under forest out of which 8,019 ha (2.5%) comes under the thin forest having less than 10% vegetation and deciduous forest with 10-20% canopy covers an area of 62,738 ha (19.14%).
- Multiple cropped land occupies an area of 13,470 ha (2.45%).