

**Report on
Prioritization of Microwatersheds in 4E1D sub -Catchment of
Godavari Basin, East Godavari, Khammam & Visakhapatnam
Districts of Andhra Pradesh, Bastar & Dantewada Districts of
Chhattisgarh and Koraput & Malkangiri Districts of Odisha state
using RS and GIS Technique.**

Nagpur Centre

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Report on Prioritization of Microwatersheds in 4E1D Sub-Catchment of Godavari Basin, East Godavari, Khammam & Visakhapatnam Districts of Andhra Pradesh, Bastar & Dantewada Districts of Chhattisgarh and Koraput & Malkangiri Districts of Odisha state using RS and GIS Technique.

ABSTRACT

- 1. Survey Area** : 4E1D Sub-catchment of Godavari Basin , East Godavari, Khammam & Visakhapatnam Districts of Andhra Pradesh, Bastar & Dantewada Districts of Chhattisgarh and Koraput & Malkangiri Districts of Odisha state.
- 2. Total Area** : 9,90,728 ha
- 3. Geographical Location** : 17° 15' - 19° 00' N Latitude
81° 14' - 82° 15' E Longitude
- 4. Kind of Survey** : Rapid Reconnaissance Survey for Priority Fixation of Micro watersheds
- 5. Base Material** : Satellite Imagery of IRS-1D and Survey of India Topographical Maps on 1: 50,000 Scale
- 6. Period of Survey** : December, 2010 to January, 2011
- 7. Agro climatic Region** : Southern Plateau & hill regions (Zone no. X)

8. Extent of area (ha) under different Runoff Potential mapping Units

SL No	RPMU	RP Value	Total Area	% Area
1	AL01	58	2764	0.28
2	AL02	59	13521	1.36
3	AL03	65	3890	0.39
4	GG01	71	113340	11.44
5	GG02	76	96500	9.74
6	GG03	89	26564	2.68
7	GG04	82	62854	6.34
8	GG05	63	7008	0.71
9	GG06	69	13935	1.41
10	GG07	80	10945	1.10
11	GG08	64	18157	1.83
12	GG09	70	31214	3.15
13	GG10	59	30481	3.08
14	GG11	57	1208	0.12
15	GG12	71	19875	2.01
16	GG13	72	10547	1.06
17	GG14	56	41544	4.19
18	GG15	59	28725	2.90
19	GG16	65	16441	1.66
20	GG17	63	207485	20.95
21	GG18	60	50025	5.05
22	GG19	60	15900	1.60
23	GG20	57	129080	13.03
24	GG21	56	25438	2.57
25	Habitation	-	696	0.07
26	Reservoir	-	2591	0.26
27	River	-	9752	0.99
28	Road	-	157	0.02
29	ROC	-	91	0.01
Total			990728	100.00

9. District wise distribution of area (ha.) under different Runoff potential Mapping units

SI No	RPMU	Bastar	Dantewada	East Godavari	Khammam	Koraput	Malkangiri	Visakhapatnam	Total Area	% Area
1	AL01	0	234	0	2530	0	0	0	2764	0.28
2	AL02	299	1469	0	7604	565	3584	0	13521	1.36
3	AL03	0	361	0	1867	0	1662	0	3890	0.39
4	GG01	2123	6210	39098	32975	9606	6368	16960	113340	11.44
5	GG02	34319	20711	2040	2354	29359	4175	3542	96500	9.74
6	GG03	5410	2551	204	630	16693	434	642	26564	2.68
7	GG04	12561	18819	5704	9908	13004	2803	55	62854	6.34
8	GG05	1706	1289	1151	792	96	646	1328	7008	0.71
9	GG06	6171	5406	0	1250	233	479	396	13935	1.41
10	GG07	7804	460	448	54	609	0	1570	10945	1.10
11	GG08	11361	2612	0	2204	0	1762	218	18157	1.83
12	GG09	14305	4766	994	337	9813	672	327	31214	3.15
13	GG10	9823	1191	23	14410	846	4188	0	30481	3.08
14	GG11	46	0	0	1162	0	0	0	1208	0.12
15	GG12	10992	5641	0	207	2653	382	0	19875	2.01
16	GG13	6168	2412	0	1252	715	0	0	10547	1.06
17	GG14	11843	11793	0	7376	185	10347	0	41544	4.19
18	GG15	20200	621	1381	1633	96	4794	0	28725	2.90
19	GG16	8005	1478	0	967	5595	135	261	16441	1.66
20	GG17	68331	45892	1137	10549	72641	7017	1918	207485	20.95
21	GG18	16637	9566	1153	15687	0	5304	1678	50025	5.05
22	GG19	11529	2005	0	1906	357	103	0	15900	1.60
23	GG20	16197	39463	116	0	68629	4065	610	129080	13.03
24	GG21	6438	4218	477	2630	11604	71	0	25438	2.57
25	Habitatio n	0	0	0	623	0	73	0	696	0.07
26	Reservoir	153	0	0	0	2118	0	297	2568	0.26
27	River	3228	827	209	1948	2101	1203	236	9775	0.99
28	Road	0	0	0	157	0	0	0	157	0.02

29	ROC	0	0	0	0	27	44	20	91	0.01
	Total	285649	189995	54135	123012	247545	60311	30058	990728	100.00

10. Priority categorisation

SI No	Priority Category	Bastar	Dantewada	East Godavari	Khammam	Koraput	Malkangiri	Visakhapatnam	No Of MWSHD	Total Area	% Area
1	Very High (above 70)	64143	33308	37678	28683	56104	6551	15019	226	241486	24.37
2	High (66-70)	53888	62981	16457	22421	61386	8677	15019	209	240829	24.31
3	Medium (61-65)	132154	53747	0	49619	86381	22494	20	300	344415	34.77
4	Low (56-60)	35464	39959	0	22312	43674	22589	0	149	163998	16.55
	Total	285649	189995	54135	123035	247545	60311	30058	884	990728	100.00

11. Watershed wise distribution of area (ha) under different priority categories

SI. No.	Watersheds	Very High	High	Medium	Low	Total Area
1	4E1D1	4575	16930	49820	24689	96014
2	4E1D2	39078	20284	35607	35740	130709
3	4E1D3	60238	36527	1443	0	98208
4	4E1D4	15221	19899	48501	20033	103654
5	4E1D5	20685	40481	32404	23485	117055
6	4E1D6	7	6543	72188	30767	109505
7	4E1D7	22092	42149	56324	1018	121583
8	4E1D8	18398	34901	35486	7705	96490
9	4E1D9	61192	23115	12642	20561	117510
	Total	241486	240829	344415	163998	990728

12. Salient Features:

- Out of total 884 microwatersheds surveyed, 226 microwatersheds covering an area 241486 ha (24.37%) comes under very high priority category. 209 microwatersheds with special extent of 240829 ha (24.31%) falls under high priority.
- 110910 ha (11.19%) area suffers from severe water erosion and 71420 ha (7.21%) area from moderate to severe water erosion. Maximum area comes under Moderate erosion (54.92%) hazards.
- Land with Steep to very steep slopes occupies nearly 236404 ha (23.86%) whereas, moderately steep to steep sloping land covers about 62854 ha (6.34%) and a strong to steep slope covers about 31888 ha (6.34%). Maximum area comes under Very gentle to Gentle slope which is 502721 ha (50.75%).
- Shallow to moderately deep soils covers most of the area (47.29%) followed by deep to very deep soils (26.9%), while very deep soils cover about 4.6 % of the area.