

REPORT ON PRIORITIZATION OF MICROWATERSHEDS IN 5A1D1 TO 5A1D3 & 5A1D5 TO 5A1D8 WATERSHEDS OF 5A1D SUBCATCHMENT (NON RVP) IN IDUKKI, ERNAKULAM AND THRISSUR DISTRICTS OF KERALA STATE AND COIMBATORE DISTRICT OF TAMIL NADU

ABSTRACT

1. Survey area : 5A1D1 to 5A1D3 & 5A1D5 to 5A1D8 Watersheds of 5A1D Subcatchment (Non RVP) in Idukki, Ernakulam and Thrissur Districts of Kerala state.
2. Location : 76° 10' to 77° 16' E Longitude : 10° 16' to 9° 28' N Latitude
3. Total area surveyed : 5, 02,684 ha
4. No. of microwatersheds : 319
5. Agro-climatic region : Zone XII – The West Coast Plain and Hill region
6. Type of survey : Rapid Reconnaissance Survey for Priority delineation of Microwatersheds
7. Period of survey : December 2005 -March 2006 and December 2007 to April 2008
8. Base map : Survey of India Topo sheets on 1:50,000scale
9. Toposheets : 58B/3, 58B/4, 58B/7, 58B/8, 58B/11, 58B/12, 58B/15, 58B/16, 58C/1, 58C/2, 58C/3, 58C/4, 58C/5, 58F/3, 58F/4, 58F/8, 58G/1, 58G/2, 58G/3and 58G/5
10. Hydrological divisions : a) Region – 5
b) Basin – 5A
c) Catchment – 5A1
d) Subcatchment – 5A1D
e) Watersheds – 5A1D1 to 5A1D9
f) Sub watersheds - 5A1D1a, 5A1D1b
g) Micro-watersheds - 5A1D1a1, 5A1D1a2

11. Extent of different Erosion Intensity Mapping Units

Sl.No.	RPMU	Runoff Potential Value	Area in ha.	Area(%)
1	A01	61	4625	0.92%
2	A02	60	2520	0.50%
3	CA01	55	587	0.12%
4	CA02	55	20726	4.12%
5	CA03	58	2047	0.41%
6	G01	66	109127	21.71%
7	G02	66	7049	1.40%
8	G03	68	31943	6.35%
9	G04	66	20430	4.06%
10	G05	66	11211	2.23%
11	G06	68	46684	9.29%
12	G07	66	52040	10.35%
13	G08	60	1948	0.39%
14	G09	62	8608	1.71%
15	G10	63	25450	5.06%
16	G11	62	20030	3.98%
17	G12	60	3328	0.66%
18	G13	58	517	0.10%
19	G14	64	28570	5.68%
20	G15	70	3755	0.75%
21	G16	57	989	0.20%
22	G17	56	30291	6.03%
23	G18	56	390	0.08%
24	G19	61	14460	2.88%
25	G20	58	3260	0.65%
26	G21	55	785	0.16%
27	HAB	0	9495	1.89%
28	LT01	58	3662	0.73%

29	LT02	57	1613	0.32%
30	ML	0	4917	0.98%
31	ROC	0	8273	1.65%
32	WB	0	23354	4.65%
Grand Total			502684	100.00

12. Watershed wise Distribution of area under different priority categories

Priority Category	WATERSHED CODES							Total
	5A1D1	5A1D2	5A1D3	5A1D5	5A1D6	5A1D7	5A1D8	
High	3318	45204	62412	20700	52943	42295	13123	239995
No. of MWS	3	30	37	15	32	29	9	155
Medium	35104	27195	20278	18719	21695	10252	23034	156277
No. of MWS	25	18	11	12	14	6	13	99
Low	42103	0	0	0	0	0	36268	78371
No. of MWS	26	0	0	0	0	0	21	47
Very Low	23129						4912	28041
No. of MWS	15						3	18
TOTAL	103654	72399	82690	39419	74638	52547	77337	502684
AREA	69	48	48	27	46	35	46	319

13: District wise distribution of area (ha) under different priority categories

State/Priority Category/No of MWS	Kerala				Tamilnadu	Total	Percentage
	Ernakulam	Idukki	Pathanamthitta	Thrissur	Coimbatore		
High	9652	211420	127	11534	7262	239995	47.7
No of MWS	11	140	1	13	13	178	
Medium	37412	93546	0	22191	3128	156277	31.1
No of MWS	38	65	0	16	3	122	
Low	46439	0	0	31932	0	78371	15.6
No of MWS	35	0	0	22	0	57	
Very Low	23284	0	0	4757	0	28041	5.6
No of MWS	18	0	0	4	0	22	
Total	116787	304966	127	70414	10390	502684	100.0
Total No of MWS	102	205	1	55	16	379	100.0

(Since some of the microwatersheds falls in different districts the total number of microwatersheds may vary in the table above)

14. Distribution of area and number of micro watersheds under different priority categories

Sl.No.	Priority Category	No.of MWS	Area in ha.	Area Percentage
1	High (66-70)	155	239995	47.7
2	Medium (61-65)	99	156277	31.1
3	Low (56-60)	47	78371	15.6
4	Very Low (55 & below)	18	28041	5.6
	Grand Total	319	502684	100

15. Distribution of area under different erosion classes

Sl No.	Erosion	Area (ha)	Percentage
1	None to slight erosion	199321	39.7
2	Slight to Moderate erosion	140948	28.0
3	Moderate erosion	60581	12.1
4	Moderate to Severe erosion	52040	10.4
5	Severe erosion	3755	0.8
6	Misc	46039	9.2
	Total	502684	100.0

Salient features

- Out of 319 micro-watersheds only 155 falls under high, 99 medium and 47 low and 18 falls under very low priority category;
- Out of total surveyed area of 239995 ha (47.7 %) falls under high priority category and 156277 Ha (31.09 %) falls under medium priority category.
- Moderate, Moderate to severe and Severe erosion hazards are prevalent of covering an area of 60581 ha (12.1%), 52040 ha (10.4%) and 3755ha (0.8%) respectively.
- Hill side slopes (10-50%) occupy maximum area of 370690 (73.7%) ha in the surveyed area.
- Out of four landscapes occurring in the area, granitic landscape occupies of nearly 420865 (83.7%) of the total area. Whereas, Alluvium, Costal alluvium and laterite landscape occupy 7145 ha (1.4 %), 23360 ha (4.6 %) and 5275 ha (1.0%), respectively.
- Nearly 160644 ha (32.0%) area is under moderately dense to dense forest cover an area of 221457 ha (44.0%) area is under different type of plantation.(Orchards, Coffee/tea estates.. etc), 52627 ha (10.5%) of the total area is under open scrub and grass over .
- Deep to very deep soils occupy majority of the area spread over 407635 ha (81.0%), very deep soils cover 49010 ha (9.8%) area of the total surveyed area.