

# REPORT ON PRIORITIZATION OF MICROWATERSHEDS IN 5A1B1 TO 5A1B4 WATERSHEDS OF 5A1B SUBCATCHMENT (NON RVP) IN ALAPUZA, IDUKKI, KOLLAM, KOTTAYAM AND PATHANAMTHITTA DISTRICTS OF KERALA STATE

## ABSTRACT

1. **Survey area** : 5A1B1 to 5A1B4 watersheds of 5A1B Subcatchment (Non RVP) in Alapuzha, Idukki, Kollam, Kottayam and Pathanamthitta districts of Kerala.
2. **Location** : 76° 21' to 77° 11' E Longitude  
9° 0' to 9° 36' N Latitude
3. **Total area surveyed** : 300817 ha
4. **No. of microwatersheds** : 212
5. **Agro-climatic region** : Zone XII – The West Coast Plain and Hill region
6. **Type of survey** : Rapid Reconnaissance Survey for Priority delineation of Microwatershed
7. **Period of survey** : February 2009 -March 2009
8. **Base map** : Survey of India toposheets on 1:50,000 scale
9. **Toposheets** : 58C/7, 58C/11, 58C/12, 58C/14, 58C/15, 58C/16, 58G/2, 58G/3, 58G/4, 58G/7 and 58G/8,
10. **Hydrological divisions** : a) Region – 5  
b) Basin – 5A  
c) Catchment – 5A1  
d) Subcatchment – 5A1B  
e) Watersheds – 5A1B1 to 5A1B4  
f) Sub watersheds - 5A1B1a, 5A1B1b  
g) Micro-watersheds-5A1B1a1, 5A1B1a2 ...etc

### 11. Extent of different Runoff Potential Intensity Mapping Units

Sl.No.	EIMU	Runoff Potential Value	Area in ha.	Area (%)
1	A01	56	246	0.1%
2	A02	56	9987	3.3%
3	A03	60	2523	0.8%
4	CA01	56	9675	3.2%
5	CA02	56	4616	1.5%
6	G01	65	154596	51.4%
7	G02	70	6909	2.3%
8	G03	80	1809	0.6%
9	G04	72	30751	10.2%
10	G05	77	2217	0.7%
11	G06	69	4281	1.4%
12	G07	62	394	0.1%
13	G08	64	18372	6.1%
14	G09	61	2086	0.7%
15	G10	62	9459	3.1%
16	LT01	60	3554	1.2%
17	LT02	59	8601	2.9%
18	LT03	69	21557	7.2%
20	RIVER	0	2852	1.0%
21	ROC	0	1471	0.5%
22	TANK	0	2393	0.8%
23	HAB	0	2468	0.8%
<b>Grand Total</b>			<b>300817</b>	<b>100.0</b>

**12. Watershed wise Distribution of area (ha) and number of microwatersheds under different priority categories**

Watersheds/MWS	Very high	High	Medium	Low	Total area	Percentage
5A1B1	0	25269	40167	5554	70990	23.6
MWS	0	18	26	4	48	0.0
5A1B2	803	41838	54602	14939	112182	37.3
MWS	1	29	38	10	78	0.0
5A1B3	4583	34182	31819	0	70584	23.4
MWS	4	26	25	0	55	0.0
5A1B4	1074	11314	35747	0	47061	15.7
MWS	1	7	23	0	31	0.0
Total Area	6460	112683	145480	47229	300998	100.0
Total MWS	6	80	108	32	212	

**12. District wise distribution of area (ha) under different priority categories**

Priority Category	Alapuzha	Idukki	Kollam	Kottayam	Pathanam thitta	Total Area	Percentage
Very High	0	0	0	0	6460	6460	2.2
MWS	0	0	0		6	6	
High	7772	13706	11525	3660	74866	111529	37.8
MWS	5	16	11	5	62	99	
Medium	8532	9829	4991	357	138626	162335	54.0
MWS	13	11	8	3	103	138	
Low	18413				2080	20493	6.8
MWS	13				4	17	
Total	34717	23535	16516	4017	222032	300817	100
Total MWS	31	27	19	8	175	260	

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

**14. Priority Categorization:**

Sl.No	Priority Category	No of Micro watersheds	Area in ha.	Area Percentage
1	Very High (above 70)	6	6460	2.2
2	High (66-70)	80	111529	37.0
3	Medium (61-65)	112	162335	54.0
4	Low (56-60)	14	20493	6.8
<b>Grand Total</b>		<b>212</b>	<b>300817</b>	<b>100.0</b>

## 15. Distribution of area under different erosion classes

Sl No.	Erosion	Area (ha)	Percentage
1	None to slight erosion	179120	59.5
2	Slight to Moderate erosion	28198	9.4
3	Moderate erosion	82506	27.4
4	Moderate to Severe erosion	1809	0.6
5	Misc	9184	3.1
	Total	300817	100.0

## 16. Salient features

- Out of 212 micro-watersheds only 6 falls under very high priority category, 80 falls under high, 112 medium and 14 under low priority category;
- Out of total surveyed area of 300817 ha, 6460 Ha (2.2 %) falls under very high priority category and 111529 Ha (37.0 %) falls under high priority category.
- Moderate erosion hazards are present in 82506 ha (27.4%) and moderate to severe erosion hazard are prevalent over an area of 1809 ha (0.6 %), respectively.
- Hillside slopes (10-50%) occupy maximum area of 222883 (74.1%) ha in the surveyed area.
- Out of four landscapes occurring in the area, granite landscape occupies on nearly 230874 Ha (76.7 %) of the total area. Whereas, Alluvial, Costal alluvial and Laterite landscape occupy 12756 Ha (4.2 %), 14291 Ha (4.8 %) and 33712 Ha (11.2%), respectively.
- Majority of the area of 165794 Ha (55.1%) area is under dense forest, whereas under Plantation 53404 ha(17.8%), Orchards 48033 ha(16.0%), 22185 ha(7.4%) and only 2217 ha (0.7%) were found under estates, orchards, multiple crops and open scrubs, respectively.
- Deep to very deep soils occupy majority of the area spread over 260560 Ha(86.6%), whereas the area under very deep soils are spread over 27047 Ha (9.0 %) area of the total surveyed area.