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# REPORT ON DEMARCATION OF PRIORITY MICRO WATERSHEDS IN 4B4A and 4B4B SUBCATCHMENTS IN MANDYA, MYSORE, COORG, HASSAN AND CHIKMAGALUR DISTRICTS, OF KARNATAKA

## ABSTRACT

1. Survey area : 4B4A and 4B4B Subcatchments in Mandya, Mysore, Coorg, Hassan and Chikkamagalur Districts, Of Karnataka
2. Location : 4B4A 75° 30' to 78° 38' E Longitude  
11° 56' to 13° 10' N Latitude  
4B4B 75° 30' to 76° 38' E Longitude  
12° 26' to 13° 23' N Latitude
3. Total area surveyed : 1020602 hectares
4. Number of microwatersheds : 1010
5. Hydrological divisions
- a) Region - 4
  - b) Basin - 4B
  - c) Catchment - 4B4
  - d) Sub-catchments - 4B4A, 4B4B
  - e) Watersheds - 4B4A1 to 4B1A4, 4B4B1 to 4B1B4
  - f) Number of Sub watersheds : 133
  - g) Microwatersheds : 1010
6. No. of microwatersheds in each watershed
- | S. No. | Watershed | No of microwatersheds | S. No. | Watershed | No of microwatersheds |
|--------|-----------|-----------------------|--------|-----------|-----------------------|
| 1      | 4B4A1     | 166                   | 5      | 4B4B1     | 139                   |
| 2      | 4B4A2     | 89                    | 6      | 4B4B2     | 96                    |
| 3      | 4B4A3     | 112                   | 7      | 4B4B3     | 139                   |
| 4      | 4B4A4     | 125                   | 8      | 4B4B4     | 144                   |
|        | Total     | 492                   |        | Total     | 518                   |
7. Agro climatic region : 10 (Semiarid subtropical with excessive evapo-transpiration)
8. Type of survey : RR survey for priority delineation
9. Period of survey : January 2002 to April 2002 and Feb 2004 to April 2004
10. Scale : 1:50,000 scale

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11. Base maps

: Survey of India topographic maps on 1:50000 scale  
48 O/8, 11,12, 15,16,  
48 P/7, 9,10, 11,12, 13, 14;15,16  
49M/13, and  
57C/4,8,12,57D/1,2,3,4,5,6,7,9,10,11  
58A/1

12. Area Extent of different Erosion Intensity Mapping Units

S. No.	EIMU	Weightage	Delivery Ratio	Area in ha.	Area(%)	S. No.	EIMU	Weightage	Delivery Ratio	Area in ha.	Area(%)
1	A4	12	0.55	1699	0.17	31	G6.2	16	0.7	5890	0.58
2	A5	13	0.57	171	0.02	32	G6.3	16	0.71	8614	0.84
3	A6	14	0.6	689	0.07	33	G6.5	14	0.66	2815	0.28
4	A7	15	0.62	5032	0.49	34	G6.8	15	0.65	639	0.06
5	C1.3	13	0.74	116	0.01	35	G7	13	0.61	121746	11.93
6	G1	16	0.79	10084	0.99	36	G7.2	16	0.69	4185	0.41
7	G1.1	14	0.6	42623	4.18	37	G8.3	16	0.67	1745	0.17
8	G1.2	16	0.74	3020	0.30	38	G8.4	14	0.62	1463	0.14
9	G1.3	16	0.75	332	0.03	39	G8.5	13	0.6	4586	0.45
10	G1.4	18	0.78	526	0.05	40	G8.6	18	0.72	5918	0.58
11	G1.5	18	0.84	20155	1.97	41	G8.7	17	0.72	275	0.03
12	G1.7	18	0.87	323	0.03	42	G9	12	0.56	13348	1.31
13	G2	17	0.83	366	0.04	43	G9.1	15	0.65	3364	0.33
14	G2.2	17	0.82	722	0.07	44	G9.5	12	0.57	1438	0.14
15	G2.4	14	0.69	1170	0.11	45	G10	15	0.68	369	0.04
16	G2.5	16	0.82	575	0.06	46	G10.3	16	0.66	97	0.01
17	G2.7	12	0.82	6608	0.65	47	G10.4	15	0.65	2835	0.28
18	G2.8	22	0.88	138	0.01	48	G10.7	16	0.65	275	0.03
19	G2.9	17	0.76	419	0.04	49	G10.9	16	0.67	693	0.07
20	G2.10	15	0.83	933	0.09	50	G10.1	19	0.76	4664	0.46
21	G3	14	0.69	78229	7.66	51	G11	15	0.69	11054	1.08
22	G3.1	15	0.73	807	0.08	52	G11.3	14	0.62	4473	0.44
23	G3.3	20	0.84	1070	0.10	53	G12	16	0.65	55779	5.47
24	G4.2	18	0.87	278	0.03	54	G12.1	15	0.63	14881	1.46
25	G5	13	0.68	5006	0.49	55	G12.3	17	0.68	4314	0.42
26	G5.1	16	0.77	482	0.05	56	G12.4	13	0.59	208	0.02
27	G5.6	14	0.63	5417	0.53	57	G12.5	13	0.59	75367	7.38
28	G5.9	15	0.75	1470	0.14	58	G12.9	13	0.6	83858	8.22
29	G6	18	0.74	111	0.01	59	G13	15	0.67	7279	0.71
30	G6.1	14	0.71	1800	0.18	60	G13.2	15	0.66	958	0.09

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S.No.	EIMU	Weightage Value	Delivery Ratio	Area in ha.	Area(%)	S. No.	EIMU	Weightage Value	Delivery Ratio	Area in ha.	Area(%)
61	G14.2	17	0.69	2398	0.23	80	G26	12	0.55	32859	3.22
62	G14.3	14	0.65	128	0.01	81	G26.1	12	0.55	59543	5.83
63	G14.4	11	0.63	930	0.09	82	G26.2	12	0.56	315	0.03
64	G15	14	0.62	211	0.02	83	G26.3	11	0.53	14800	1.45
65	G15.2	15	0.61	3368	0.33	84	G26.5	12	0.56	53958	5.2
66	G15.5	13	0.59	335	0.03	85	G26.6	13	0.61	51534	5.05
67	G18	16	0.63	13095	1.28	86	G26.8	11	0.53	15409	1.51
68	G18.2	16	0.68	1846	0.18	87	G29	15	0.65	27967	2.74
69	G18.3	13	0.61	4731	0.46	88	G29.1	14	0.68	2842	0.28
70	G18.4	16	0.66	1915	0.19	89	G31.3	14	0.61	257	0.03
71	G18.5	12	0.58	18552	1.82	90	G37.2	15	0.66	7212	0.71
72	G19.1	11	0.57	180	0.02	91	G39.1	18	0.72	2372	0.23
73	G19.9	14	0.63	3018	0.30	92	L1	15	0.63	160	0.02
74	G22	15	0.63	4534	0.44	93	Habit	10	0.5	11742	1.15
75	G22.1	16	0.65	866	0.08	94	Reservoir	10	0.5	1103	0.11
76	G23	17	0.72	323	0.03	95	River	10	0.5	8175	0.80
77	G23.1	14	0.61	172	0.02	96	ROC	10	0.5	2073	0.20
78	G25	19	0.73	262	0.03	97	Tank	10	0.5	18762	1.84
79	G25.1	15	0.67	256	0.03	98	WB	10	0.5	18898	1.85
G Total										1020602	100

13. Soil Erosion Hazard

SL.NO.	Erosion	Area	Area %
1	None to slight erosion	379160	37.15
2	Slight to Moderate erosion	269442	26.40
3	Moderate erosion	259838	25.46
4	Moderate to Severe erosion	44006	4.31
5	Severe erosion	5031	0.49
6	Severe to Very severe erosion	2372	0.23
7	Misc.	60753	5.95
<b>Grand Total</b>		<b>1020602</b>	<b>100.00</b>

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## 14. Priority Categorization

S. No.	Priority Category	No. of Microwatersheds	Area in ha.	Area Percentage
1	Very High (>1300)	3	2811	0.28
2	High (1200-1299)	5	4363	0.43
3	Medium (1100-1199)	18	16816	1.65
4	Low (1000-1099)	44	39746	3.89
5	Very Low (Below 1000)	940	956866	93.75
	<b>Grand Total</b>	<b>1010</b>	<b>1020602</b>	<b>100</b>

## 15. Number of microwatersheds and area under different priority categories vis a vis Districts

S. No.	Priority	Chikkamagalur	Hassan	Kodagu / Coorg	Mandya	Mysore	Total
1	Very High (1300 and above)	-	767 (1)	2044 (2)	-	-	2811 (3)
2	High (1200-1299)	-	-	4363 (6)	-	-	4363 (5)
3	Medium (1100-1199)	1561 (1)	3150 (3)	11352 (13)	-	753 (1)	16816 (18)
4	Low (1000-1099)	3415 (4)	1916 (2)	22709 (26)	2494 (1)	9212 (10)	39746 (44)
5	Very Low (Below 1000)	67507 (71)	408741 (394)	199605 (229)	94612 (85)	186941 (162)	956866 (940)
	<b>Total</b>	<b>72483 (75)</b>	<b>414574 (400)</b>	<b>239533 (275)</b>	<b>97106 (87)</b>	<b>196906 (173)</b>	<b>1020602 (1010)</b>

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**16. Number of microwatersheds and area under Watersheds vis a vis Districts**

S. No.	Watershed	Chikmagalur	Hassan	Kodagu / Coorg	Mandya	Mysore	Total
1	4B4A1	-	-	58235 (79)	-	101743 (99)	159978 (166*)
2	4B4A2	-	40514 (46)	-	2104 (8)	69277 (57)	111895 (89*)
3	4B4A3	-	17239 (25)	59232 (82)	-	12979 (15)	89450 (112*)
4	4B4A4	-	-	105700 (112)	-	12545 (15)	118245 (125*)
5	4B4B1	-	60897 (60)	-	95002 (98)	362 (3)	156261 (139*)
6	4B4B2	-	107980 (96)	-	-	-	107980 (96)
7	4B4B3	39516 (35)	112150 (113)	-	-	-	151666 (139*)
8	4B4B4	32967 (48)	75794 (98)	16366 (22)	-	-	125127 (144*)
	<b>Total</b>	<b>72483 (83)</b>	<b>414574 (438)</b>	<b>239533 (295)</b>	<b>97106 (106)</b>	<b>196906 (189)</b>	<b>1020602 (1010)</b>

**17. Number of microwatersheds and area under different priority categories vis a vis Watersheds**

Watershed	Priority Category					Grand Total
	(1) Very High (>1300)	(2) High (1200-1299)	(3) Medium (1100-1199)	(4) Low (1000-1099)	(5) Very Low (Below 1000)	
4B4A1			1784 (2)	18360 (19)	139834 (145)	159978 (166)
4B4A2					111895 (89)	111895 (89)
4B4A3	2044 (2)	4363 (5)	5414 (8)	5611 (8)	72018 (89)	89450 (112)
4B4A4			4907 (4)	4904 (4)	108434 (117)	118245 (125)
4B4B1				2494 (2)	153767 (137)	156261 (139)
4B4B2				863 (1)	107117 (95)	107980 (96)
4B4B3			1561 (1)	1277 (1)	148828 (137)	151666 (139)
4B4B4	767 (1)		3150 (3)	6237 (9)	114973 (131)	125127 (144)
<b>Grand Total</b>	<b>2811 (3)</b>	<b>4363 (5)</b>	<b>16816 (18)</b>	<b>39746 (44)</b>	<b>956866 (940)</b>	<b>1020602 (1010)</b>

**18. Salient features:**

1. Out of total surveyed area 3 microwatersheds covering an area of 2811 ha.(0.28%) have been categorized as very high and 5 microwatersheds covering an area of 4363 ha.( 0.43%) have been categorized as high priority.
2. In the surveyed area red soils have the maximum area of 912986 ha. covering 89.5% and black soils have the least area of 39016 ha. extent 3.8%.
3. Distribution of area under different land use categories is maximum under rainfed Agriculture. 258104 ha (25.3%) followed by area under multiple crop cultivation 230460 ha.(22.5%), under estates (tea, coffee, rubber, cashew) 209650 ha.(20.5%), orchards 75367 ha(7.4%), other lands 60753 ha(6.0%), evergreen forests(double story) of dense forests 90717 ha.(8.9%).
4. Maximum surveyed area falls under Hassan district followed by , Kodagu/Coorg, Mysore, Mandya and Chikmangalur.
5. Highest area under very high and high priority categories falls in 4B4A3 watershed in Hassan and Kodagu/Coorg district