

REPORT ON PRIORITIZATION OF MICROWATERSHEDS IN 4B3F1, F2, F3, & F6 WATERSHEDS OF 4B3F SUBCATCHMENT (NON-RVP) IN CHAMRAJNAGAR, KODAGU, MANDYA AND MYSORE DISTRICTS OF KARNATAKA STATE.

ABSTRACT

- 1. Survey area** : 4B3F1, F2, F3 & F6 watersheds of 4B3F Subcatchment (Non RVP) in Chamrajnagar, Kodagu, Mandya and Mysore districts of Karnataka state.
- 2. Location** : 76° 02' to 76°55' E Longitude
11° 39' to 12°26' N Latitude
- 3. Total area surveyed** : 371985 ha
- 4. No. of microwatersheds** : 296
- 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** : November 2009 to December 2009
- 8. Base map** : Survey of India toposheets on 1:50,000 scale
- 9. Topo-sheets** : 57D/04, 57D/07, 57D/08, 57D/11, 57D/12, 57D/15, 57D/16, 58A/01, 58A/09, 58A/10, 58A/13, 58A/14.
- 10. Hydrological divisions** : a) Region – 4
b) Basin – 4B
c) Catchment – 4B3
d) Subcatchment – 4B3F
e) Watersheds – 4B3F1
f) Sub watersheds - 4B3F1a, 4B3F1b
g) Micro-watersheds - 4B3F1a1, 4B3F1a2...

11. Area Extent of different Run-off Potential Intensity Mapping Units

Sl.No.	RPMU	Runoff Potential Value	Area in (ha)	Percentage
1	AL01	54	1752	0.47
2	AL02	54	2610	0.70
3	CK01	64	5162	1.39
4	CK02	67	2705	0.73
5	CK03	67	3583	0.96
6	CK04	72	1132	0.30
7	CK05	62	3403	0.91
8	G01	63	3823	1.03
9	G02	83	5014	1.35
10	G03	59	5751	1.55
11	G04	75	7885	2.12
12	G05	57	16381	4.40
13	G06	70	6845	1.84
14	G07	60	65364	17.57
15	G08	56	6465	1.74
16	G09	55	15534	4.18
17	G10	55	27624	7.43
18	G11	57	13796	3.71
19	G12	55	38703	10.40
20	G13	64	49126	13.21
21	G14	58	26189	7.04
22	G15	58	36686	9.86
23	G16	57	4114	1.11
24	G17	59	625	0.17
25	Hab	0	15801	4.25
26	RIVER	0	2878	0.77
27	ROC	0	513	0.14
28	TANK	0	2521	0.68
		Grand Total	371985	100.00

12. Priority Categorization:

Sl.No.	Priority Category	No.of MWS	Area (ha)	Percentage
1	Very High (above 65)	5	6902	1.9
2	High (61-65)	87	112030	30.1
3	Medium (56-60)	200	248274	66.7
4	Low (51-55)	4	4779	1.3
Grand Total		296	371985	100.00

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

Watershed Codes/ No of MWS	Priority Category Area/ No. of MWS				Area in (ha)/ No. of MWS	Percentage
	Very High	High	Medium	Low		
4B3F1	5026	31651	46413	1178	84268	22.7
No of MWS	3	27	36	1	67	
4B3F2	1004	59074	16155	0	76233	20.5
No of MWS	1	42	15		58	
4B3F3	872	9693	97528	2239	110332	29.7
No of MWS	1	8	79	2	90	1
4B3F6	0	11612	88178	1362	101152	27.2
No of MWS	0	10	70	1	81	
Total Area	6902	112030	248274	4779	371985	100.0
Total MWS	5	87	200	4	296	

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

Priority Category	Chamaraja Nagar	Kodagu	Mandya	Mysore	Total Area	Percentage
Very High	2145	0	0	4757	6902	1.9
No. of MWS	2	0	0	4	6	
High	68175	0	0	43855	112030	30.1
No. of MWS	58	0	0	42	100	
Medium	31138	13894	15243	187999	248274	66.7
No. of MWS	30	12	18	164	224	
Low	0	935	1152	2692	4779	1.3
No. of MWS	0	1	1	3	5	
Total	101458	14829	16395	239303	371985	100.0
No. of MWS	90	13	19	213	335	

(Note: As some of the Microwatersheds falling in more than one district, the total number of microwatersheds may vary with the actual number of microwatersheds)

15. Distribution of area under different erosion classes

Erosion	Area(Ha)	Percentage
None to slight erosion	90330	24.3
Slight to Moderate erosion	85773	23
Moderate erosion	127104	34.2
Moderate to Severe erosion	45933	12.4
Severe erosion	1132	0.3
Misc	21713	5.8
Total	371985	100.0

16. Salient features

- Out of 296 micro-watersheds only 5 falls under very high priority category, 87 falls under high, 200 under medium and 4 falls under low priority category and none of the microwatersheds falls under very low priority categories in this subcatchment.
- Areawise about 1.9% has been categorized under very high priority category accounting 6902 ha; followed by 30.1 % under high priority category accounting 112030 ha; 66.7 % under medium and 10.6% under low priority accounting 248274 ha and 4779 ha respectively.
- Area surveyed represents only 0.3% of the area under severe erosion hazards followed by 12.4% under moderate to severe erosion hazard. Moderate erosion hazards are present in 127104 ha (34.2%), followed by slight to moderate erosion in 85773 ha (23%) and none to slight erosion hazard in an area of 90330 ha (24.3 %).
- Upper pediplains occupy maximum area of 156446 ha (42.1%) followed by lower pediplains 112861 ha (30.3%).
- Granite landscape predominates in the area accounting to 88.7% of the total area.
- Agriculture is the mainstay of the area with 66.4% of the area falling under cultivated lands accounting 247094ha followed by 23.9% under forests accounting to 88857 ha
- Deep to very deep soils occupy majority of the area with a spread of 185625 ha (50.0%) and shallow to moderately deep soils occupy 117728 ha (31.6%).

HOW TO USE SOIL SURVEY REPORT

The report embodies the results of “Rapid Reconnaissance Survey” which aims at identifying the micro watersheds, which are relatively more prone to soil erosion and need immediate suitable soil and water conservation measures. Further, this report furnishes information on the general characteristics of the catchment such as location and extent, physiography, relief, drainage, geology, climate, land use, agriculture, natural vegetation and soils.

The database for this report was generated through field traverse during the rapid reconnaissance survey carried out in 4B3F1, F2, F3 and F6 watersheds of 4B3F subcatchment. The survey area covers an area of 371985 hectare comprising 296 microwatersheds. The priorities are fixed on the basis of “Runoff Potential Index “Higher value of RPI suggests high priority and vice versa. Demarcated microwatersheds map sheets pertaining to 4B3F subcatchment on 1:50000 scale are appended with this report

In the maps that are appended with this report, each microwatershed has been marked with a code like 4B3F1a1, which is the representative abbreviated microwatershed code. In this code, first numeral ‘4’ indicates water resources region (flowing to bay of Bengal); ‘B’ indicates basin (Cauvery Basin); ‘3’ denotes catchment; ‘ F ‘ for Subcatchment; ‘ 1’ for watershed , ‘a’ for sub watershed and ‘1’ for microwatershed. Within each microwatersheds runoff potential mapping units (RPMU) are marked according to geological landscapes such as A01, G01, G02 ...etc. Each RPMU units connotes a set of soil and land characteristics viz. physiography, slope, landform, land use, soil depth, color, texture, stoniness, type of erosion, soil conservation practices. For details of the legend description of mapping units reference can be made to Annexure I. Whereas Annexure-II of the report furnishes information on Microwatershed wise distribution of Runoff Potential Mapping Units (RPMU) their runoff potential value, relative RPI and Runoff Potential Index microwatershed codes, runoff potential index and grading of microwatersheds with priority category. Annexure-III lists microwatersheds in the descending order of priority.

The very high and high priority micro-watersheds are shown on appended map by horizontally hatching. These priorities are suggestive of the relative severity of runoff problem in the catchment. For any clarification and comment on this report, contact may be made to the following addresses:

The Chief soil Survey Officer,
Soil and Land Use Survey of India
IARI Buildings, New Delhi 110 012
Phone: 091-11-25841263 Fax 091-11-25843811
Email: csso-slusi@nic.in Logon to: <http://slusi.dacnet.nic.in>

or

The Soil Survey Officer
Soil and Land Use Survey of India
Survey No.207, Kodigehalli,
VidyaranyaPura.P.O post, Bangalore 560 097
09180-23640761, 091-80-23641119, fax 091-80-23640751
Email: soilkar@nic.in