

**REPORT ON PRIORITIZATION OF MICROWATERSHEDS IN 5B1B1 TO 5B1B7  
WATERSHEDS OF 5B1B SUBCATCHMENT (NON-RVP) IN BELGAUM, DHARWAD &  
UTTAR KANNADA DISTRICTS OF KARNATAKA STATE AND SOUTH GOA DISTRICT  
OF GOA STATE**

**ABSTRACT**

1. **Survey area** : 5B1B1 to 5B1B7 watersheds of 5B1B Subcatchment (Non RVP) in Belgaum, Dharwad and Uttar Kannada districts of Karnataka State and South Goa district of Goa State.
2. **Location** : 74° 03' to 74° 57' E Longitude  
14° 35' to 15° 35' N Latitude
3. **Total area surveyed** : 5, 19,279 ha
4. **No. of microwatersheds** : 391
5. **Agro-climatic region** : Zone XII – The West Coast Plain and Hill region
6. **Type of survey** : Rapid Reconnaissance Survey for Prioritization of microwatersheds
7. **Period of survey** : February 2007 to March 2009
8. **Base map** : Survey of India toposheets on 1:50,000 scale
9. **Toposheets** : 48I/07, 08, 11,12,15,16, 48J/1, 5, 6,9
10. **Hydrological divisions** : a) Region - 5  
b) Basin - 5B  
c) Catchment - 5B1  
d) Subcatchment - 5B1B  
e) Watersheds - 5B1B1 to 5B1B7  
f) Sub watersheds - 5B1B1a, 5B1B1b  
g) Micro-watersheds- 5B1B1a1,  
5B1B1a2.... etc

### 11. Area extent of different runoff potential mapping units

Sl.No.	RPMU	Runoff Potential Value	Area (Ha)	Percentage
1	CA01	55	55557560	1.46
2	G01	63	77175	14.86
3	G02	64	13579	2.61
4	G03	59	19153	3.69
5	G04	60	9962	1.92
6	G05	65	5482	1.06
7	G06	60	3869	0.75
8	G07	56	13133	2.53
9	G08	60	10852	2.09
10	G09	57	14294	2.75
11	GW01	63	13783	2.65
12	GW02	60	6301	1.21
13	GW03	59	10470	2.02
14	GW04	66	8753	1.69
15	GW05	57	15492	2.98
16	GW06	57	14346	2.76
17	GW07	62	6184	1.19
18	GW08	54	3910	0.75
19	GW09	57	7389	1.42
20	GW10	56	40157	7.73
21	GW11	55	6499	1.25
22	GW12	58	13312	2.56
23	GW13	59	44220	8.52
24	LT01	61	42841	8.25
25	LT02	73	6170	1.19
26	LT03	61	23742	4.57
27	LT04	64	2185	0.42
28	LT05	56	12668	2.44
29	LT06	55	3074	0.59
30	LT07	60	19040	3.67
31	LT08	54	12820	2.47
32	LT09	56	5915	1.14
<b>Total</b>			<b>494330</b>	<b>95.2</b>
33	HAB	Miscellaneous	4947	0.95
34	TANK		15757	3.03
35	ROC		1384	0.27
36	RIVER		2861	0.55
<b>Grand Total</b>			<b>519279</b>	<b>100.0</b>

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

Priority Category No. of MWS	Karnataka State			Goa State	No. of MWS	Total Area	Percentage
	Belgaum	Dharwad	Uttar Kannada	South Goa			
<b>Very High</b>	0	0	800	0	-	800	0.2
No. of MWS	0	0	1	0	1	-	-
<b>High</b>	7061	7786	175130	4223	-	194200	37.4
No. of MWS	10	6	132	5	153	-	-
<b>Medium</b>	55660	36600	229837	0	-	322097	62.0
No. of MWS	62	41	193	0	296	-	-
<b>Low</b>	0	0	2182	0	-	2182	0.4
No. of MWS	0	0	2	0	2	-	-
Total Area	62721	44386	407949	4223	-	519279	100.0
Total No. of MWS	72	47	328	5	452		

**Note:** Total number of micro watersheds may vary due to few of the micro watersheds falls in two districts/states.

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

Priority Category	WATERSHED CODES							Total
	5B1B1	5B1B2	5B1B3	5B1B4	5B1B5	5B1B6	5B1B7	
<b>Very High</b>	0	0	0	800	0	0	0	800
No. of MWS	0	0	0	1	0	0	0	1
<b>High</b>	53493	45955	37108	7894	39227	0	10523	194200
No. of MWS	40	33	25	7	29	0	8	142
<b>Medium</b>	32736	23664	31028	59711	63795	44258	66905	322097
No. of MWS	23	16	23	44	51	37	52	246
<b>Low</b>	2182	0	0	0	0	0	0	2182
No. of MWS	2	0	0	0	0	0	0	2
TOTAL AREA	88411	69619	68136	68405	103022	44258	77428	519279
TOTAL MWS	65	49	48	52	80	37	60	391

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

<b>Sl.No</b>	<b>Priority Category</b>	<b>No. of MWS</b>	<b>Area(Ha)</b>	<b>Percentage</b>
1	Very High (above 65)	1	800	0.15
2	High (61-65)	142	194200	37.4
3	Medium (56-60)	246	322097	62.03
4	Low (51-55)	2	2182	0.42
	<b>Grand Total</b>	<b>391</b>	<b>519279</b>	<b>100.00</b>

**15. Distribution of area under different erosion classes**

<b>Erosion Class</b>	<b>Area(Ha)</b>	<b>Percentage</b>
None to slight	74996	14.4
Slight to Moderate	233420	45.0
Moderate	140285	27.0
Severe	45629	8.8
Misc	24949	4.8
<b>Total</b>	<b>519279</b>	<b>100</b>

## **Salient features**

- Out of 391 micro watersheds only one micro watershed falls under very high priority, while 142 MWS falls under high priority category which need immediate attention for suitable run off control measures. However, 246 MWS fall under medium priority and 2 MWS fall under low priority category.
- In coverage, only 800 ha (0.15%) of the area falls under very high priority category and 1, 94,200 ha (37.4 %) of the area under high priority category.
- Among the districts Uttar Kannada district of Karnataka has the highest spatial extent of high priority categories that contributes to 33.7 percent of the total area of high priority category area.
- The survey area reveals that moderate and severe erosion is prevalent to an extent of 1,40,285 ha (27.0%) and 45,629 ha (8.8%) respectively.
- Hill with steep to very steep slopes accounts to an area of 1,53,548 ha (29.6%) and strong to steep slope in an area of 8,99,17 ha (17.3%) of the surveyed area.
- The study area has four landscapes such as coastal alluvium, granite, greywacke and laterite. Among the landscape coastal alluvial landscape occupies only to an extent of 1.5 percent of the total area (7560 ha), while the dominant landscapes are greywacke, granite and laterite which cover an area of 36.7% (1,90,816 ha ), 32.3% (1,67,499 ha ) and 24.7% (1,28,455 ha ) respectively.
- The major area is covered by forest representing 67 % of the total area, while cultivated land occupies an area of 96153 ha, followed by estates and orchards covering 25858 ha area.
- The soils are deep to very deep in general that accounts for 4, 66,306 ha area (90% of the total area) whereas, moderately deep soils occupy 6170 ha (1.2%) of the total surveyed area.

## **HOW TO USE SOIL SURVEY REPORT**

The report infers 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 the study area was generated through field traverse during the rapid reconnaissance survey carried out in 5B1B1 to 5B1B7 watersheds of 5B1B subcatchment. The survey area covers an area of 5, 19, 279 hectare comprising 391 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 5B1B sub catchment on 1:50000 scale are appended with this report.

Micro watershed has been codified with a code like 5B1B1a1, which is the representative abbreviated microwatershed code. In this code, first numeral ‘5’ indicates water resources region ( flowing to Arabian sea); ‘B’ indicates basin ( southern western ghats); ‘1’ denotes catchment; ‘ B ‘ for Subcatchment; ‘ 1’ for watershed , ‘a’ for sub watershed and ‘1’ for microwatershed. Within each microwatershed runoff potential mapping units (RPMU) are marked according to geological landscapes such as CA01, GW01, LT01, G 01...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.

The details of legend description and Differentiating Characteristics of Run Off Potential Mapping Units have been depicted in Annexure I and Table No. 6 respectively. Whereas Annexure-II of the report furnishes information on Microwatershed and District 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 furnishes information on micro watersheds in the descending order of their priority.

The themes on slope, land use, depth, management and erosion appended with the report provides simple and added information on the database. The very high and high priority microwatersheds are shown on appended map by horizontal hatching. These priorities are suggestive of the relative severity of runoff problem in the catchment. For any further clarification, information and comments/suggestions may contact to:

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