

REPORT ON PRIORITIZATION OF SUBWATERSHEDS IN 5F1 RIGHT BANK OF SABARMATI AND UPPER PART HATHMATI (NON R.V.P.) CATCHMENT, AHMEDABAD, BANASKANTHA GANDHINAGAR, KHEDA, MEHSANA, SABARKANTHA AND SURENDRANAGAR DISTRICTS OF GUJARAT, PALI, SIROHI AND UDAIPUR DISTRICTS OF RAJASTHAN.

ABSTRACT

1. Survey area Sabarmati River Basin (Right Bank of Sabarmati and upper part beyond Hathmati Catchment..)
2. Location N. Latitude 22° -25' to 24° - 50'
E Longitude 71° - 30' to 73° - 40'
3. Agroclimatic Region XIII (Gujarat plains and hill region)
4. Total Surveyed area 14,05,723 ha.
5. Type of Survey Rapid Reconnaissance survey for Priority Delineation.
6. Period of Survey April,1995 to June 1997.
7. Base Material Survey of India topographical maps on 1 : 50,000 scale

9. Hydrological Divisions : (As per watershed Atlas of India, 1990)

WRR	:	'5'	:	Water Resources Region
Basin	:	'5F'	:	Sabarmati River Basin
Catchment	:	'5F1'	:	Right Bank of Sabarmati and upper part beyond Hathmati Catchment

Sr.No.	Subcatchment	Watershed Code	Stream Name	No. of sub Watersheds	Area in ha.	Percentage %
1.	5F1A R.B.beyond Hathmati (Bhogvo)	5F1A1	Bhogvo	44	148719	10.58
		A2	Nibhni	26	86949	6.19
		A3	Shelwa	33	126870	9.03
		A4	Godavari	34	107102	7.62
		A5	Rodh	44	194575	13.84
		A6	R.B. Sabarmati	17	80923	5.76
		A7	R.B.S'mati	22	113940	8.11
2. (Upper most part of Hathmati)	5F1B	5F1B1	Harnav	38	98101	6.98
		B2	R.B.S'mati	31	72681	5.17
		B3	L.B.S'mati	23	53761	3.82
		B4	Pamri	44	99272	7.06
		B5	Wakal	43	134070	9.54
		B6	Sei	35	88760	6.31
Total No. of Subwatersheds				434		
Total Area in ha.and percentage					14,05,723	100.00

10. Grading of subwatersheds in to priority categories of Sabarmati Basin :

Priority Categories Grading	Sediment Yield Index	No.of Sub-watersheds	Area in ha.	Percentage %
Very High	1200 and above	54	141990	10.1
High	1100-1199	75	187666	13.4
Medium	1000-1099	87	262761	18.7
Low	900-999	90	301377	21.4
Very Low	below 900	128	511929	36.4
TOTAL		434	14,05,723	100.0

11. Geographical extent of different erosion intensity mapping units.

Sr.No.	Mapping Units	Weightage	Delivery Ratio	Area in ha.	% of the total area
1.	A1	16	0.65	35374	2.5
2.	A2	17	0.67	16665	1.2
3.	A3	16	0.66	15078	1.1
4.	A4	13	0.58	35081	2.5
5.	A5	13	0.57	11456	0.8
6.	A6	12	0.54	10402	0.7
7.	A7	12	0.55	196078	13.9
8.	A8	14	0.61	9553	0.7
9.	A9	17	0.69	2355	0.2
10.	A10	13	0.59	973	0.1
11.	A11	17	0.68	455	0.03
12.	A12	12	0.56	140	0.01
13.	A13	14	0.60	58931	4.2
14.	A14	14	0.61	13628	0.97
15.	A15	14	0.61	249772	17.8
16.	A16	13	0.57	21997	1.6
17.	B1	19	0.80	3008	0.2
18.	B2	15	0.64	5898	0.4
19.	B4	16	0.67	48561	3.5
20.	B5	15	0.64	52390	3.7
21.	B7	18	0.71	9085	0.6
22.	C1	18	0.80	118184	8.4
23.	C2	14	0.70	90157	6.4
24.	C3	14	0.61	5259	0.4
25.	C4	14	0.62	1769	0.1
26.	C5	17	0.69	20323	1.4
27.	C6	15	0.64	5908	0.8
28.	CA1	9	0.36	40812	2.9
29.	E2	14	0.61	5227	0.4

Sr. No.	Mapping Units	Weightage Value	Delivery Ratio	Area in ha.	%
30.	E3	13	0.59	1025	0.1
31.	G1	16	0.75	156445	11.1
32.	G2	15	0.67	401	0.03
33.	G3	16	0.67	39022	2.8
34.	G4	14	0.63	2745	0.2
35.	G5	15	0.63	7035	0.5
36.	G6	18	0.70	63	0.004
37.	G7	16	0.66	1710	0.1
38.	G8	13	0.58	403	0.03
39.	G9	15	0.64	51	0.004
40.	S2	16	0.67	2249	0.2
41.	S3	15	0.63	23101	1.6
42.	S4	17	0.68	238	0.02
43.	S5	16	0.66	34539	2.5
44.	S6	13	0.59	2725	0.2
TOTAL				13,56,271	96.5
MISC. (Streams, Waterbodies & Habitation)				15,514	1.1
SUBMERGED AREA				33,938	2.4
GRAND TOTAL				14,05,723	100.0

Salient features :

- About 23.5% area of the surveyed area falls under very high and high priority category which may be treated first.
- About 39.8% area suffer with moderate to severe erosion in the surveyed area which needs attention.
- About 25.93% area is hilly which contributes more runoff and silt and needs plantation.