REPORT ON PRIORITIZATION OF MICRO-WATERSHEDS IN 5H3C-BANAS SUB-CATCHMENT (NON R.V.P.) DISTRICTS - BANASKANTHA, KUTCH, MEHSANA (GUJARAT) AND SIROHI (RAJASTHAN)

ABSTRACT

1. Survey area	:	5H3C - Banas (Non RVP) Sub- Catchment
2. Location	:	a) 23° - 30' to 24° - 50' N Latitude b) 71° -13' to 72° - 50' E Longitude
3. a) Agroclimatic Region	:	13 (Gujarat plains and hill region) and 14 (Western dry region)
b) Agroclimatic Zone	:	'4' - North Gujarat zone and '5' - North-West Gujarat zone '4' - Transitional plain of Luni Basin (Rajasthan - zone IIB)
4. Total area Surveyed	:	5,81,303 ha
5. Type of Survey	:	Rapid Reconnaissance Survey for Priority Demarcation of Micro-watersheds
6.Period of Survey	:	February 2000 to June 2001
7. Base map used	:	Survey of India topographical maps of 1:50,000 scale
8. Hydrological Sub - division	:	As per Watershed Atlas of India -1990 a) Water resource Region: '5" All drainage flowing into Arabian Sea except Indus drainage. b) Basin- '5H' Drainage into 'Gulf of Kutch' c) Catchment - '5H3' Drainage into 'Little Rann of Kutch' d) Subcatchment - '5H3C' Drainage of River Banas e) Watersheds - 5H3C1 to 6 f) Subwatersheds - 95 g) Microwatersheds - 643

9. Distribution of area under different watersheds

S.No.	Watersheds	Stream Name	No. of Sub-watershed	No.of Micro-watersheds	Area in ha.
1.	5H3C1	Left Banas	21	155	1,97,884
2.	5H3C2	Khari, Chekaria	22	169	1,55,479
3.	5H3C3	R.B. Banas	11	60	72,919
4.	5H3C4	Sipu	15	92	53,384
5.	5H3C5	Sili and Sipu	22	139	76,883
6.	5H3C6	Balaram	4	28	24,754
		Total	**95**	**643**	**5,81,303**

10. Geographical extent of different Erosion Intensity Mapping Units

S.No.	Mapping Unit	Weightage Value	Delivery Ratio	Area in ha.	Percentage of total area
A - ALLUVIAL LANDSCAPE					
1	A1	11	0.53	144593	24.87
2	A2	13	0.59	43647	7.51
3	A3	14	0.60	7016	1.21
4	A4	14	0.61	4793	0.82
5	A5	12	0.55	15248	2.62
6	A6	10	0.51	54417	9.36
7	A7	12	0.56	8014	1.38
8	A8	13	0.57	54065	9.30
9	A9	11	0.51	16142	2.78
10	A10	12	0.55	14027	2.41
11	A11	13	0.58	672	0.12
12	A12	14	0.61	41171	7.08
13	A13	13	0.56	7838	1.35
14	A14	19	0.72	11296	1.94
CA - COASTAL ALLUVIAL LANDSCAPE					
15	CA1	14	0.60	9986	1.72

16	CA2	13	0.58	24676	4.24
C - PHYLLITE, QUARTZITE, QUARTZ AND CALCAREOUS GNEISS COMPLEX					
17	C1	20	0.87	7524	1.29
18	C2	19	0.77	6133	1.06
19	C3	17	0.70	2288	0.39
20	C4	14	0.61	12573	2.16
21	C5	16	0.66	6899	1.19
22	C6	17	0.68	2347	0.40
23	C7	14	0.61	9670	1.66
E - AEOLIAN LANDSCAPE					
24	E1	16	0.65	13843	2.38
25	E2	12	0.56	3501	0.60
26	E3	13	0.58	5138	0.88
27	E4	19	0.75	3679	0.63
G - GRANITE AND GRANITE GNEISS LANDSCAPE					
28	G1	14	0.78	6866	1.18
29	G2	16	0.82	8822	1.52
30	G3	11	0.80	628	0.11
31	G4	17	0.74	5546	0.95
32	G5	17	0.68	2857	0.49
33	G6	17	0.69	4818	0.83
34	G7	13	0.57	496	0.09
Sub Total				**5,61,229**	**96.55**
35	Misc. (Stream, water bodies & Habitation)			20074	3.45
Grand Total				**5,81,303**	**100.0**

11. Grading of priority microwatersheds in '5H3C' subcatchment

S.No.	Priority Category	Sediment Yield Index Range	No. of Micro - watersheds	Area in ha.	Percentage
1.	Very high	1300 & above	23	12212	2.10
2.	High	1200 - 1299	16	9730	1.67
3.	Medium	1100 - 1199	45	25833	4.44
4.	Low	1000 - 1099	46	25322	4.36
5.	Very low	Below - 1000	513	508206	87.43
	Total		**643**	**581303**	**100.00**

12. Watershed wise status of priority of Microwatersheds

Sl.No.	Watershed Code	No. of microwater sheds	Priority grouping				
			Very high	High	Medium	Low	Very low
1	5H3C1	155	-	-	-	-	155
2	5H3C2	169	-	-	-	-	169
3	5H3C3	60	-	-	-	-	60
4	5H3C4	92	17	5	16	5	49
5	5H3C5	139	6	11	29	38	55
6	5H3C6	28	-	-	-	3	25
	Grand Total	**643**	**23**	**16**	**45**	**46**	**513**

Salient features of the surveyed area:-

Out of the total area of 5,81,303 ha, 3,97,090 ha. (68.31%) falls in district Banaskantha, followed by 80,842 ha (13.91%) in Mehsana and 10,300 ha. (1.77%) in Kutch district Gujarat. 93,071 ha (16.01%) falls in Sirohi district of Rajasthan.

Out of the total area, about 4,23,255 ha (72.81%) area is under cultivation, of which 2,19,821ha (37.82%) is irrigated , managed and under double crop cultivation.

An area of about 21,942 ha (3.77%) falls under very high and high priority categories out of the total surveyed area.

Medium priority microwatersheds account for 25,833 ha (4.44%) of the total area.

About 23,840 ha (4.10%) area is hilly and has shallow to moderately deep, loamy skeletal soils.

About 34,662 ha (5.96%) area suffers from medium to strong salinity / alkalinity problem and needs reclamation measures.

About 14,975 ha (2.57%) of the surveyed area is suffering from severe to very severe gully erosion and needs immediate attention.