

ABSTRACT

1. Survey area : 4A1C and 4A1D subcatchments, Tirunelveli, Ramanathapuram and Madurai districts, Tamilnadu.
2. Location : 8°47'30" to 10°5' North latitudes  
77°12' to 79°29' East longitudes
3. Total area surveyed and mapped : 12,48,536 hectares
4. Agro climatic regions: Semiarid subtropical with excessive evapotranspiration
5. Type of survey : Rapid reconnaissance survey for priority delineation
6. Period of survey : December 1993 to March 1994
7. Base map : Survey of India toposheets on 1:50,000 scale

8. Distribution of areas under different priority categories

Sl. No.	Priority category	Silt yield index range	No. of Sub-watersheds	Area (in hectares)	Percentage
1.	Very high	1200 and above	2	6646	0.5
2.	High	1199 - 1100	15	66271	5.3
3.	Medium	1099 - 1000	42	173402	13.9
4.	Low	999 - 900	175	752696	60.3
5.	Very low	Less than 900	57	249521	20.0
Total			291	1248536	100.0

9. Extent of area under different erosion intensity mapping units

Sl.No.	EIMU Symbol	Area (in ha)	Percentage
1	A1	35482	2.8
2	A2	15086	1.2
3	A3	161	0.01
4	CA1	16191	1.3
5	CA4	10498	0.8
6	CA6	5675	0.4
7	CD1	1802	0.1
8	CD2	4463	0.4
9	CD3	2703	0.2
10	L1	17074	1.4
11	L2	1095	0.1
12	G1	30113	2.4
13	G2	34848	2.8
14	G3	674	0.1
15	G4	2280	0.2
16	G5	1278	0.1
17	G6	7302	0.6
18	G8	21209	1.7
19	G9	5343	0.4
20	G10	1186	0.1
21	G11	5629	0.5
22	G12	32748	2.6
23	G13	654	0.05
24	G14	28244	2.3
25	G16	1501	0.1
26	G17	2217	0.2
27	G18	53057	4.2
28	G19	379	0.03
29	G20	1266	0.1
30	G21	56	0.01
31	G22	420759	33.7
32	G23	20301	1.6
33	G24	52669	4.9
34	G25	2358	0.2
35	G26	265210	21.3
36	G27	5954	0.5
37	G28	1624	0.1
38	G29	7700	0.6
39	S1	764	0.1
40	S2	4402	0.4
41	S3	7370	0.6
	Misc.*	119211	9.5
	Total	1248536	100.0

\*Misc.= Tank/River/Stream/Habitation/Canal/Rock Out Crops(ROC)/  
Salt Pan (SP)/Marshy Lands (ML)

10. Hydrological division

- a) Region 4
- b) Basin 4A
- c) Catchment 4A1
- d) Subcatchment - 4A1C and 4A1D
- e) Watersheds - 4A1C1 to 4A1C7 and 4A1D1 to 4A1D6
- f) Subwatersheds - 291 (as listed below at Sl.No.11)

11. Distribution of watersheds and subwatersheds under different subcatchments

Subcatchment	Watershed	No. of Watersheds
4A1C	4A1C1	18
	4A1C2	22
	4A1C3	35
	4A1C4	20
	4A1C5	27
	4A1C6	31
	4A1C7	19
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	SUB-TOTAL	7
4A1D	4A1D1	20
	4A1D2	19
	4A1D3	23
	4A1D4	17
	4A1D5	22
	4A1D6	18
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	SUB-TOTAL	6
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	GRAND TOTAL	13

12. Soil erosion hazards

Sl.No.	Erosion	Area (in ha.)	Percentage
1.	Slight	313560	25.1
2.	Slight to moderate	584902	46.9
3.	Moderate	225130	18.0
4.	Moderate to severe	4638	0.4
5.	Severe	1095	0.1
6.	Miscellaneous	119211	9.5
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		1248536	100.0

13. The extent of different kind of soils

Sl.No.	Type of soil	Area (in ha.)	Percentage
a.	Red soils	351073	28.2
b.	Black soils	513042	41.1
c.	Red and black soils	265210	21.2
d.	Miscellaneous	119211	9.5
	Total	1248536	100.0

14. Salient features

1. Two subwatersheds comprising 6646 hectares constituting 0.5% of the total surveyed area falls under very high priority. 15 subwatersheds constituting 66271 hectares (5.3%) falls under high category. Forty two subwatersheds constituting 173402 ha. (13.9%) falls under medium priority category. The low and very low priority categories comprises 175 subwatersheds 752696 ha (60.3%) and 57 subwatersheds 249521 ha. (20.0%) area respectively.
2. Black soils cover about 513042 ha. (41.1%) area in the surveyed area.
3. Red soils cover 351073 (28.2%) and Red and Black soils cover 265210 (21.2%) area in this catchment.
4. About 18.5% area suffer with moderate to severe erosion in surveyed area.