

ABSTRACT

01.	Surveyed Area	4C3H1 to 4C3H8 Watersheds of 4C3H Subcatchment, 4C3(Pennar) Non RVP Catchment, Districts Anantapur, Cuddapah, and Kurnool of Andhra Pradesh and District Chitradurga, Karnataka State
02.	Location	14 ⁰ 20' to 15 ⁰ 38' North Latitude 77 ⁰ 47' to 78 ⁰ 24' East Longitude
03.	Total Area	659594 Ha.
04.	Nos. of Microwatersheds	657 microwatersheds.
05.	Agro climatic zone	Southern Zone (Zone-III)
06.	Kind of Survey	Rapid Reconnaissance Survey for priority categorization of microwatersheds
07.	Period of Survey	2006-2007
08.	Base Map	Survey of India, Topographical Maps on 1:50000 scale
09.	Toposheets	57E07,08,11,12,15,16,F01,02,05,06,07,08,09,10,11,13,14, 57J01 & 57I04.
10.	Hydrological division	a. Region 4 - (Drainage flowing in to Bay of Bengal)
		b. Basin 4C - (Pennar)
		c. Catchment 4C3 - (Pennar)
		d. Sub-catchment 4C3H
		e. Watershed 4C3H1 to 4C3H8
		f. Sub-watershed 4C3H1a to 4C3H2a etc.
		g. Micro-watershed 4C3H1a1, 4C3H2a1 etc.

11. Distribution of area (ha) under different watersheds

S.No.	Watersheds	Total Area (ha)	Area (%)	S No.	Watersheds	Total Area (ha)	Area (%)
1	4C3H1	60220	9	5	4C3H5	74031	11
2	4C3H2	113945	17	6	4C3H6	46124	7
3	4C3H3	109270	17	7	4C3H7	98758	15
4	4C3H4	95617	14	8	4C3H8	61629	9
				Grand Total		659594	100

12. Priority categorization

S.No.	Priority Category	No.of Microwatershed	Total Area(ha.)	Area (%)
1	Very High (above 70)	36	33334	5.05
2	High (66-70)	133	130870	19.84
3	Medium (61-65)	363	370454	56.17
4	Low (56-60)	125	124936	18.94
	Grand Total	657	659594	100.00

13. Watershed wise Area (ha.) and number of micro watersheds under different priority categories

S No	Watersheds	Very High	High	Medium	Low	Total Area(ha.)	Area %
1	4C3H1	3679	4747	16816	34978	60220	9
2	4C3H2	18171	28062	41788	25924	113945	17
3	4C3H3	3845	24244	69377	11804	109270	17
4	4C3H4	3118	7530	71989	12980	95617	14
5	4C3H5	0	16190	41926	15915	74031	11
6	4C3H6	2175	11775	21999	10175	46124	7
7	4C3H7	1265	24963	62778	9752	98758	15
8	4C3H8	1081	13359	43781	3408	61629	9
	Grand Total	33334	130870	370454	124936	659594	100

14. State & District wise distribution of area (ha) under different watersheds

S No.	Watersheds	ANANTAPUR	CUDDAPAH	KURNOOL	CHITRA DURGA	Total Area (ha.)	Area %
1	4C3H1	52918	7302	0	0	60220	9
2	4C3H2	81125	8609	24211	0	113945	17
3	4C3H3	109270	0	0	0	109270	17
4	4C3H4	95617	0	0	0	95617	14
5	4C3H5	66416	0	0	7615	74031	11
6	4C3H6	31803	0	14321	0	46124	7
7	4C3H7	68166	0	30592	0	98758	15
8	4C3H8	60256	0	0	0	61629	9
	Grand Total	565571	15911	69124	7615	659594	100

15. District wise distribution of area under different priority categories

S No.	Priority Category	Total MWS	ANANTHAPUR	CUDDAPAH	KURNOOL	CHITRA DURGA	Total Area (ha)	Area %
1	Very High (above 70)	36	20915	1209	11210	0	33334	5.05
2	High (66-70)	133	107021	3344	19079	1426	130870	19.84
3	Medium (6165)	363	322156	3894	38215	6189	370454	56.17
4	Low (56-60)	125	116852	7464	620	0	124936	18.90
	Grand Total	657	566944	15911	69124	7615	659594	100.00

16. Aerial Extent of different Run-off Potential Mapping Units.

S.No.	RPMU	Runoff Potential Value	Area (ha.)	Area (%)
1	AL01	58	42315	6.42
2	AL02	56	6203	0.94
3	AL03	68	7845	1.19
4	DL01	78	3743	0.57
5	GR02	76	30	0.00
6	GR03	68	2882	0.44
7	GR04	61	132	0.02
8	GR05	69	14446	2.19
9	GR06	64	11160	1.69
10	GR07	59	36972	5.61
11	GR08	58	43987	6.67
12	GR09	58	38872	5.89
13	GR11	60	391	0.06
14	GR12	64	162138	24.57
15	GR13	64	32990	5.00
16	GR14	72	906	0.14
17	GR15	68	22807	3.46
18	GR16	63	36749	5.57
19	GR17	63	142	0.02
20	GR19	72	12987	1.97
21	GR20	80	11458	1.74
22	LS01	60	921	0.14
23	SH01	60	4444	0.67
24	SH02	59	9142	1.39
25	SH03	75	45	0.01
26	SS01	64	3628	0.55
27	SS02	86	22102	3.35

28	SS04	68	186	0.03
29	SS05	57	246	0.04
30	SS06	65	16835	2.55
31	SS07	69	15542	2.36
32	SS08	61	2809	0.43
33	SS09	57	3508	0.53
34	SS11	66	3170	0.48
35	SS14	64	9379	1.42
36	SS15	56	20403	3.09
37	SS16	56	8372	1.27
38	SS17	60	47	0.01
39	SS19	60	5701	0.86
40	SS20	70	11589	1.76
41	Habitation	0	5566	0.84
42	River	0	10504	1.59
43	ROC	0	2866	0.43
44	Tank	0	9113	1.38
45	Quarry	0	542	0.08
46	Reservoir	0	3539	0.54
47	Sand	0	240	0.04
Grand Total			659594	100.00

17. Salient Features

- Out of the total area of 659594 ha., 565571 area falls under Anantapur, 15911 ha. Under Cuddapah, 69124 ha under Kurnool district AP state and 7615 ha under Chitradurga district, Karnataka State.
- Very High category of priority micro-watershed cover 33334 ha (5.05%), High under 130870 ha (19.84%), Medium under 370454ha (56.16%), Low under 124936 ha (18.94%) of the total surveyed area.
- 5.73 percent under severe erosion, 17.32 percent of the total survey area is under moderate to severe erosion hazard with 38.8 percent under moderate erosion hazard.
- An area of 410975 ha (62.3%) is under agriculture, 39445 ha (6.0%) covered under forest, 176804 (26.8%) under open scrub of the total survey area.

How to use Soil Survey Report

The report embodies the results of the rapid reconnaissance survey conducted in Microwatersheds of 4C3H1 to 4C3H8 watersheds of 4C3H Subcatchment of 4C3, Pennar, Non RVP Catchment for planning soil and water conservation measures and treatment plan for effective soil conservation practices.

The priority categories have been fixed on the basis of runoff potential index (RPI) values derived on computation by formula described in the chapter 3 of the report. Higher values of the RPI suggest higher priority and vice-versa.

The microwatersheds of 4C3H Subcatchment have been categorized into five categories of priority termed as very high, high, medium, low and very low.

All the microwatersheds of the reported area are listed in Appendix I, showing Runoff Potential Mapping Unit (RPMU), their area, runoff potential value, Index and Priority grading. This annexure is very useful to know any information at microwatershed level. All the microwatersheds have been listed in descending order of their sediment yield index in Annexure II and graded in different priority categories.

The codification and delineation in National Watershed Atlas is demarcated upto watershed level e.g. 4C3H1 which connotes:

- 4 : for water resource region
- C : for basin
- 3 : for catchment
- H : for subcatchment
- 1 : for watershed

This delineation and codification is transferred on a priority demarcation map where two more delineations are made and an English alphabet followed by an Arabic number is suffixed to the watershed symbol to connote subwatershed and microwatershed respectively. Thus the 7 digit symbol e.g. 4C3H1a1 represents a microwatershed code on a priority delineation map. Different runoff potential mapping units are marked with capital English alphabet followed by Roman numbers if needed like AL01, DR01, etc. Each soil mapping unit denotes a set of soil and land attributes such as physiography, slope, depth, soil texture, land use, land cover, management practices, category of erosion, etc. Detailed description of soil mapping units has been given in chapter 4.

The user on the basis of the maps appended with the report needs to identify the location of the area of interest. On the map 7 digit code e.g. 4C3H1a1 is to be noted along with the symbols of RPMU. To know the priority category Annexure I and II is to be referred. To get the area of different RPMUs mapped within the microwatershed of interest Annexure I is to be consulted. The description of each RPMU is given in **Table No.8** and RPMU

differentiating characteristics in **Table No.9**. The distribution of area under different priority categories with reference to land use wise area, soil depth, management class and erosion hazards are given in **Table No. 11 to 15**. Priority categorization with reference to district wise area is depicted in **Table No.18**.

Request for detailed soil survey for preparation of micro watersheds development plan or for the area of interest can be sent to the Chief Soil Survey Officer by giving the codes of Microwatersheds, at the address given below.

The findings of the rapid reconnaissance survey have been summarized in Chapter 5. The very high priority Microwatersheds are shown in the appended by vertical hachuring where as Microwatersheds of high priority by horizontal hachuring. These priorities are relative severity of the problems in the microwatershed against the urgency of the treatment.

In case any additional information or explanation is required, the reference may be made to.

<p>The Chief Soil Survey Officer Soil and Land Use Survey of India (Department of Agri. & Co-operation) Government of India I.A.R.I. Buildings, New Delhi- 110012 Ph.011-25841263, 25849686 Fax-011-25843811 E-mail-csso-slusi@nic.in</p>	<p>and/or</p>	<p>The Soil Survey Officer Soil and Land Use Survey of India Mrida Sarvekshan Bhavan, Rajendra Nagar Hyderabad- 500030 (Telangana State) Ph. & Fax-040-24010051 040-24010042 Email- ssohyderabad-slusi@nic.in soilap@nic.in Log on to – http://slusi.dacnet.nic.in</p>
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