

### ABSTRACT

01.	<b>Surveyed Area</b>	:	4C3D1 to D8 Watersheds of 4C3D Sub-catchment (Non-RVP) in Anantapur, Chittoor, Cuddapah district of Andhra Pradesh & Kolar district of Karnataka State
02.	<b>Location</b>	:	77 <sup>0</sup> 52' to 78 <sup>0</sup> 15' East Longitude 13 <sup>0</sup> 25' to 14 <sup>0</sup> 41' North Latitude
03.	<b>Total Area</b>	:	7, 81,122 ha.
04.	<b>Nos. of Microwatersheds</b>	:	666 microwatersheds.
05.	<b>Agro climatic zone:</b>		Southern Zone (Zone-III)
06.	<b>Kind of Survey</b>	:	Rapid Reconnaissance Survey
07.	<b>Period of Survey</b>	:	January, 2006 to March 2006
08.	<b>Base Map</b>	:	Survey of India, Topographical Maps on 1:50000 scale
09.	<b>Toposheet</b>	:	57J,02,03,04,6,07,08,10,11,12,57G13,14,15, 57K01,02,03,04,05,06,07,09 and 10.
10.	<b>Hydrological division</b>	:	a. Region 4 - (Drainage flowing in to Bay of Bengal)
			b. Basin 4C - (Pennar)
			c. Catchment 4C3 - (Pennar)
			d. Sub-catchment 4C3D
			e. Watershed 4C3D1 to 4C3D8
			f. Sub-watershed 4C3D1a to 4C3D2a etc.
			g. Micro-watershed 4C3D1a1, 4C3D2a1 etc.

#### 11. Distribution of area (ha) under different watersheds

S.No.	Watersheds	Total Area (ha)	Area (%)	S No.	Watersheds	Total Area (ha)	Area (%)
1	4C3D1	59403	7.60	5	4C3D5	106798	13.67
2	4C3D2	72146	9.24	6	4C3D6	176986	22.66
3	4C3D3	35580	4.55	7	4C3D7	151693	19.42
4	4C3D4	39931	5.11	8	4C3D8	138585	17.74
					<b>Grand Total</b>	<b>781122</b>	<b>100.00</b>

## 12. Priority categorization

Sl.No.	Priority Category	No.of Microwatershed	Area in ha.	Area Percentage
1	Very High (above 70)	169	225564	28.88
2	High (66-70)	263	307885	39.42
3	Medium (61-65)	193	202988	25.99
4	Low (56-60)	31	37748	4.83
5	Very Low (55 & below)	10	6937	0.89
	<b>Grand Total</b>	<b>666</b>	<b>781122</b>	<b>100.00</b>

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

S No	Watersheds	Very High	High	Medium	Low	Very Low	Area	%
1	4C3D1	5489	16147	32852	4915	0	59403	7.60
2	4C3D2	6751	24100	29967	11328	7	72146	9.24
3	4C3D3	7710	9496	18374	0	0	35580	4.55
4	4C3D4	14834	17340	7574	0	183	39931	5.11
5	4C3D5	48015	36404	21326	1053	0	106798	13.67
6	4C3D6	52979	4129	31668	41857	4966	176986	22.66
7	4C3D7	68049	72126	10753	321	444	151693	19.42
8	4C3D8	34608	67953	33921	766	1337	138585	17.74
	<b>Grand Total</b>	<b>225564</b>	<b>307885</b>	<b>202988</b>	<b>37748</b>	<b>6937</b>	<b>781122</b>	<b>100.00</b>

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

S No.	WATER-SHEDS	ANDHRA PRADESH			KARNATAKA	AREA	Area %
		ANANTAPUR DISTRICT	CHITTOOR DISTRICT	CUDDAPAH DISTRICT	KOLAR DISTRICT		
1	4C3D1	0	0	0	59403	59403	7.60
2	4C3D2	0	0	0	72146	72146	9.24
3	4C3D3	0	0	0	35580	35580	4.55
4	4C3D4	0	0	14119	25812	39931	5.11
5	4C3D5	0	0	106798	0	106798	13.67
6	4C3D6	47054	0	129932	0	176986	22.66
7	4C3D7	123962	27731	0	0	151693	19.42
8	4C3D8	0	138585	0	0	138585	17.74
	<b>Total</b>	<b>171016</b>	<b>166316</b>	<b>250849</b>	<b>192941</b>	<b>781122</b>	<b>100</b>

**15. Aerial Extent of different Run-off Potential Mapping Units.**

<b>Sl. No.</b>	<b>EIMU</b>	<b>Runoff Potential Value</b>	<b>Area (Ha.)</b>	<b>Area (%)</b>
1	<b>AL01</b>	59	13652	1.75
2	<b>AL02</b>	57	7696	0.99
3	<b>AL03</b>	68	4731	0.61
4	<b>LS01</b>	60	1	0.00
5	<b>DR01</b>	78	3404	0.44
6	<b>GR01</b>	85	10168	1.30
7	<b>GR02</b>	77	5621	0.72
8	<b>GR03</b>	72	350	0.04
9	<b>GR04</b>	66	3026	0.39
10	<b>GR05</b>	69	46299	5.93
11	<b>GR06</b>	69	21804	2.79
12	<b>GR07</b>	62	91481	11.71
13	<b>GR08</b>	59	45541	5.83
14	<b>GR09</b>	61	6979	0.89
15	<b>GR10</b>	65	2887	0.37
16	<b>GR11</b>	61	6809	0.87
17	<b>GR12</b>	68	95412	12.21
18	<b>GR13</b>	65	3699	0.47
19	<b>GR14</b>	75	224	0.03
20	<b>GR15</b>	68	2455	0.31
21	<b>GR16</b>	67	44128	5.65
22	<b>GR17</b>	66	12031	1.54
23	<b>GR18</b>	59	22877	2.93
24	<b>GR19</b>	76	36872	4.72

25	<b>GR20</b>	85	35488	4.54
26	<b>GR21</b>	57	7013	0.90
27	<b>GR22</b>	71	2130	0.27
28	<b>SS01</b>	68	14347	1.84
29	<b>SS02</b>	88	32560	4.17
30	<b>SS03</b>	80	10258	1.31
31	<b>SS04</b>	75	20113	2.57
32	<b>SS05</b>	77	5621	0.72
33	<b>SS06</b>	71	8424	1.08
34	<b>SS07</b>	71	28057	3.59
35	<b>SS08</b>	67	3989	0.51
36	<b>SS09</b>	71	10225	1.31
37	<b>SS10</b>	66	29872	3.82
38	<b>SS11</b>	59	31352	4.01
39	<b>SS12</b>	56	1825	0.23
40	<b>SS13</b>	60	8869	1.14
41	<b>SS14</b>	66	29	0.00
42	<b>SS15</b>	61	227	0.03
43	<b>SS16</b>	80	17988	2.30
44	<b>SH01</b>	60	5262	0.67
45	<b>Riv</b>	0	8844	1.13
46	<b>Tank</b>	0	13267	1.70
47	<b>Hab</b>	0	2338	0.30
48	<b>ROC</b>	0	498	0.06
	<b>Grand Total</b>		<b>781122</b>	<b>100.00</b>

## 6. Salient Features

- Out of the total area of 7,81,122 ha., 1,71,016 area falls under Anantapur district, 1,66,316 ha under Chittoor, 2,50,849 ha under Cuddapah district of Andhra Pradesh State and 1,, ha under Kolar district of Karnataka State.
- Very High category of priority micro-watershed cover 2, 25,564 ha (28.88%), High under 3,07,885 ha (39.42%), Medium under 2,02,988 ha (25.99%), Low under 37,748 ha (9.83 %) of the total surveyed area.
- 53.3 percent of the total survey area is under moderate to severe erosion hazard with mere 15.5 percent under slight erosion hazard.
- An area of 391735 ha (50.2%) is mixed agriculture and plantation, 1,09,169 ha (14%) covered under forest, 222329 (28.5%) under open scrub of the total survey area.
- Nearly 38.8 percent of the survey area is under shallow to moderately deep, 25.3 percent under very shallow to shallow, 21.6 percent under moderately deep to deep soils with mere 7 percent under deep to very deep soils.

## **How to Use Soil Survey Report**

The report embodies the results of the rapid reconnaissance survey conducted in Microwatersheds of 4C3D1 to 4C3D8 watersheds of 4C3D 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 4C3D Subcatchment have been categories 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. 4C3D1 which connotes:

- 4 : for water resource region
- C : for basin
- 3 : for catchment
- D : 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. 4C3D1a1 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. 4CDF1a1 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 with in the microwatershed

of interest Annexure I is to be consulted. The description of each RPMU is given in table 6 and RPMU differentiating characteristics in table 7. The distribution of area under different priority

categories with reference to district wise area, slope, soil depth, management class, drainage class and erosion hazards are given in table 9 to 15. Priority categorization with reference to district wise area is depicted in Table 17.

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 hatching where as Microwatersheds of high priority by horizontal hatching. 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><b>The Chief Soil Survey Officer</b> Soil and Land Use Survey of India (Department of Agri. &amp; Co-operation) Government of India I.A.R.I. Campus, New Delhi- 110012 Ph.011-25841263, 25849686 Fax-011-25843811 <a href="mailto:csso-slusi@nic.in">E-mail: csso-slusi@nic.in</a></p>	<p><b>and/or</b></p>	<p><b>The Soil Survey Officer</b> Soil and Land Use Survey of India Mrida Sarvekshan Bhavan, Rajendra Nagar Hyderabad- 500030 Telangana State Ph. &amp; Fax-040-24010051 040-24010042 Email: <a href="mailto:ssohyderabad-slusi@nic.in">ssohyderabad-slusi@nic.in</a> <a href="mailto:soilap@nic.in">soilap@nic.in</a></p>
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