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**Inventory of Soil Resources of
Tumkur District, Karnataka State
Using Remote Sensing Techniques**

Bangalore Centre



**Soil and Land Use Survey of India
(Department of Agriculture & Co-operation)
Ministry of Agriculture
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Karnataka State, Using Remote Sensing Techniques**

ABSTRACT

1.	Survey Area	:	Tumkur District, Karnataka State
2.	Geographical Extent	:	76 ⁰ 20' to 77 ⁰ 31' East longitude 12 ⁰ 45' and 14 ⁰ 20' North latitude
3.	Agro climatic Zone	:	Central dry Zone under Southern Plateau and Hill Region
4.	Total Area	:	10,64,157 ha.
5.	Kind of Survey	:	Soil Resource Mapping using Remote Sensing Technique
6.	Base maps used	:	i) SOI Toposheets 57G/1 to 57 G/7, 57C/6 to 57 C/16, 57 B/16, 57D/13, 57H/1 and H/2 of 1:50,000 scale ii) IRS IA FCC Imageries
7.	Scale of Mapping	:	1:50,000
8.	Period of Survey	:	December, 2003 to February, 2004 & March, 2004 to April, 2004

8. Mapping unit wise Soil association and their extent:

Sl. No.	Mapping Units	Soil Series Association	Area (ha.)	Percentage
1	ALg2a1	Honnavalli -Tippanapalya	33971	3.2
2	ALg2b1	Tippanapalya -Honnavalli	173617	16.3
3	AMn6c1	Kasareddipalli -Kottala	4864	0.5
4	AMn6d1	Kottala - Kasaraedipalli	6354	0.6
5	AMn8c1	Heggada - Rasareddipalli	7729	0.7
6	AMn8d1	Rasareddipalli - Heggada	5278	0.5

7	AMu4a1	Bidaregundi - Jakkannahalli	8314	0.8
8	AMu4c1	Dharmaveera - Hunasekatte	3757	0.4
9	AMu4d1	Hunasekatte - Dharmaveera	7255	0.7
10	AMv3a1	Banasandra – Hunasekatte-- Dharmaveera	33621	3.2
11	AMv3a2	Bukkapatna	8250	0.8
12	AMv3b1	Kyatagenahalli - Banasandra	5728	0.5
13	AMv3c1	Bellara – Jakkannahalli	3213	0.3
14	AMv3d1	Jakkannahalli- Bellara- Hunasekatte	7787	0.7
15	AMw2a1	Muthugadahalli - Hagari	8430	0.8
16	AMw2b1	Hagari - Muthugadahalli	15431	1.5
17	GGn6c1	Boranakanive - Gyaraghatta	1871	0.2
18	GGn6d1	Gyaraghatta - Boranakanive	1932	0.2
19	GGn8c1	Kunigal – Bornakanive- Gyaraghatta	1553	0.1
20	GGu4a1	Kodihalli- Tambadi	9505	0.9
21	GGu4c1	Tambadi - Aladakatte	3484	0.3
22	GGu4d1	Aladakatte - Tambadi	11545	1.1
23	GGv3a1	Gowdagere - Aladakatte	131547	12.4
24	GGv3a2	Ranganahalli - Kallipalya	91724	8.6
25	GGv3b1	Bommanahalli - Gowdagere	17061	1.6
26	GGv3c1	Tirtapura - Tambadi	1597	0.2
27	GGv3d1	Aladakatte- Tirtapura - Tambadi	12390	1.2
28	GGw2a1	Kallipalya - Ranganahalli	114915	10.8
29	GGw2a2	Ranganahalli - Kallipalya	41307	3.9
30	GGw2b1	Janeheru – Kallipalya-Ranganahalli	34668	3.3
31	GGw2d1	Janeheru - Kallipalya	1478	0.1
32	GRn6d1	Jadegondanahalli - Ranganathapura	13317	1.3
33	GRn8c1	Ranganathapura - Jadegondanahalli	18190	1.7
34	GRn8d1	Jadegondanahalli - Ranganathapura	13559	1.3
35	GRu4a1	Laxmidevapura – Shettihalli	3300	0.3
36	GRu4a2	Shettihalli - Laxmidevapura	5435	0.5
37	GRu4c1	Kenkere – Garani	1337	0.1
38	GRu4d1	Garani – Kenkere	10812	1.0
39	GRv2a1	Goligekere - Kanikal	4736	0.4
40	GRv2a2	Kanikal - Goligekere	5775	0.5

41	GRv3a1	Kanikal – Goligekere-Rajavani	35889	3.4
42	GRv3a2	Goligekere – Kanikal - Rajavani	18453	1.7
43	GRv3b1	Marsetthalli – Yelkur	4450	0.4
44	GRv3d1	Rajavani - Kanikal	2408	0.2
45	GRw2a1	Madhugiri – Vandakal - Jallipalya	45175	4.2
46	GRw2b1	Jallipalya – Madhugiri - Vandakal	9795	0.9
47	e	Rock out crop	4947	0.5
48	f	Habitation	9754	0.9
49	g	Water bodies	46649	4.4
	Total	Total	1064157	100

9. Salient Features:

- ❖ Most of the area in Tumkur district comes under Geology Granite Gneiss (44.0%) followed by Alluvium (20.0%) & Granite (18.0%).
- ❖ The survey area is dominated by very gently sloping lands (46.0 %) which is followed by gently sloping area (35.0 %).
- ❖ Major physiography is upper pediplains (36.1%) followed by lower pediplains (25.5%) and stream banks (19.5%) .
- ❖ Agriculture land occupies about 56 % followed by plantation (25.0%), whereas open scrubs and forest land covers 8 .0% and 5.0 % respectively.
- ❖ The area under Deep soils is 40.0 % followed by very deep soils of 38.0 % area.
- ❖ Nearly 72.0 % area is affected by moderate erosion followed by severe erosion (11.0 %) and only 9.0 % area is affected by slight erosion.
- ❖ Nearly 73.0 % area is under moderate management followed by poor management (11.0 %) and only 10.0 % area is well managed.
- ❖ Major area (61.65 percent) comes under land capability sub-class Iles which is suitable for agriculture and have moderate erosion hazard and moderately sloping lands.
- ❖ Most of the area i.e. 42.59 percent comes under Soil Irrigability class B - moderate soil limitations for sustained use under irrigation and about 29.8 percent area comes under Soil Irrigability class C - severe soil limitations for sustained use under irrigation