

(For official use only)

**Soil Resource Mapping of Chikmagalur  
District Karnataka State using  
Remote Sensing Techniques**

**Bangalore Centre**

**Soil and Land Use Survey of India  
(Department of Agriculture & Co-operation)  
Ministry of Agriculture  
Government of India  
IARI Buildings, New Delhi-110012**

---

## Soil Resource Mapping of Chikmagalur district, Karnataka using Remote Sensing Techniques

---

### ABSTRACT

1. Survey Area : Chikmagalur
2. Geographical Extent : 75° 04' 46" to 76° 21' 50" East longitude  
12° 54' 42" to 13° 53' 53" North latitude
3. Total Area : 7, 23,391 ha.
4. Agro-Climatic Region : Zone No.- 10, Southern plateau and hill region
5. Kind of Survey : Soil Resource Mapping using Remote Sensing Technique
6. Scale of Mapping : 1:50,000
7. Period of Survey : November, 2003 to March, 2004 & May, 2004  
December, 2004 to January, 2005

8. Mapping unit wise Soil association and their extent:

S.No.	Mapping Unit	Soil Series Association	Area (ha)	Percentage
1	ALb2a1	Mallapura-Mutinkoppa	2379	0.33
2	ALb3b1	Mutinkoppa- Mallapura	1787	0.25
3	BAn6a1	Javali-Krishnapur	2271	0.31
4	BAn6b1	Kudremukh-Javali	6462	0.89
5	BAn6c1	Krishnapur-Javali	16748	2.32
6	BAn6d1	Krishnapur-Kudremukh	4509	0.62
7	BAn8b1	Javali-Kudremukh	13296	1.84
8	BAn8c1	Javali-Krishnapur-Kudremukh	21638	2.99
9	BAn8d1	Krishnapur-Javali-Kudremukh	46434	6.42
10	BAo2a1	Gopalpur-Hulikere	807	0.11
11	BAo3b1	Gopalpur-Beranagodu	1231	0.17
12	BAo4a1	Gopalpur-Lingdahalli	3998	0.55
13	BAo4c1	Gopalpur-Swamikatte	10350	1.43
14	BAo4d1	Gopalpur-Sakkarepatna	2537	0.35
15	BAp4a1	Sakkarepatna-Beranagodu	1033	0.14
16	BAu4a1	Beranagodu-Hulikere	731	0.10
17	BAv3a1	Lingdahalli-Hulikere-Berangodu	3590	0.50
18	BAw2b1	Sakkarepatna-Swamikatte	1436	0.20
19	BAw3a1	Swamikatte-Sakkarepatna	19331	2.67
20	BAw3a2	Sakkarepatna-Swamikatte-Hulikere	777	0.11
21	CGn6a1	Aradarahalli-Uppanahalli	1639	0.23

22	CGn6b1	Aradarahalli-Godigunde	10565	1.46
23	CGn6c1	Uppanahalli-Goligunde	37941	5.24
24	CGn6d1	Uppanahalli-Aradarahalli	4756	0.66
25	CGn7a1	Goligunde-Uppanahalli	1382	0.19
26	CGn8b1	Uppanahalli-Taverekere	11331	1.57
27	CGn8c1	Goligunde-Taverekere	32808	4.54
28	CGn8d1	Goligunde-Uppanahalli-Taverekere	14231	1.97
29	CGo4a1	Taverekere-Janapura	3282	0.45
30	CGo4b1	Janapura-Horahatte	1141	0.16
31	CGo4c1	Horahatte-Janapura	5746	0.79
32	CGo4d1	Janapura-Taverekere	4365	0.60
33	CGp2a1	Dudalapur-Kaimara	11472	1.59
34	CGp2b1	Chikka-Dudalapur	450	0.06
35	CGq3a1	Janapura-Kaimara	22281	3.08
36	CGq3b1	Horahatte-Chikka	663	0.09
37	CGq3d1	Kaimara-Horahatte	492	0.07
38	CGr4d1	Taverekere-Kaimara	769	0.11
39	CGv2a1	Chikka-Kaimara	41225	5.70
40	CGv2d1	Garje-Kaimara	9309	1.29
41	CGv3b1	Horahatte-Janapura	9535	1.32
42	CGv4a1	Janapura-Horahatte	3132	0.43
43	CGv4b1	Horahatte-Taverekere	14707	2.03
44	CGv4c1	Taverekere-Horahatte	35422	4.90
45	CGv4d1	Janapura-Garje	7073	0.98
46	CGw2a1	Madanemane-Dudalapur	72741	10.06
47	CGw2b1	Chikka-Dudalapur	29224	4.04
48	CGw2c1	Garje-Kaimara	6018	0.83
49	CGw2d1	Dudalapur-Chikka	1324	0.18
50	CMn6d1	Koranahalli-Marle	411	0.06
51	CMn8c1	Marle-Koranahalli	413	0.06
52	CMo4a1	Kudregundi-Koranahalli	436	0.06
53	CMo4c1	Marle-Kudregunde	486	0.07
54	CMv3a1	Baliganur-Kudregunde-Mundre	1603	0.22
55	CMv3b1	Mundre-Kudregunde	422	0.06
56	CMv3d1	Kudregunde-Mundre	1686	0.23
57	CMw2a1	Baliganur-Mundre	1090	0.15
58	GGn6a1	Kodavalli-Mudigere	556	0.08
59	GGn6b1	Mudigere-Kodavalli	896	0.12
60	GGn8b1	Mudigere-Hosatta	835	0.12
61	GGn8c1	Hosatta-Kodavalli	2110	0.29
62	GGn8d1	Kodavalli-Hosatta	939	0.13

63	GGo4a1	Bankal-Makanahalli	2430	0.34
64	GGo4c1	Kogil-Bankal	2329	0.32
65	GGo5d1	Kogil-Madapura	790	0.11
66	GGp2a1	Hukunda-Aladagudde	807	0.11
67	GGq3a1	Aladagudde-Hukunda-Makkikoppa	732	0.10
68	GGv2a1	Chattanahalli-Gaudanahalli	1629	0.23
69	GGv3b1	Makanahalli-Makkikoppa-Gaudanahalli	989	0.14
70	GGv3d1	Madapura-Kabbaranahalli	1261	0.17
71	GGw2a1	Macheri-Kamapura-Bilawala	15248	2.11
72	GGw2b1	Mallidevihalli-Turavanahalli	945	0.13
73	GGw2d1	Birur-Kamapura-Bilwala	1059	0.15
74	GGw4d1	Magadi-Birur-Macheri	1071	0.15
75	SCn6a1	Kenchapur-Khandya-Vapuga	555	0.08
76	SCn6b1	Kenchapur-Khandya	1526	0.21
77	SCn6c1	Vapuga-Khandya	19340	2.67
78	SCn6c2	Khandya-Kenchapur	1345	0.19
79	SCn6d1	Kenchapur-Khandya	936	0.13
80	SCn8a1	Kenchapur-Vapuga	1127	0.16
81	SCn8b1	Vapuga-Kenchapur-Khandya	8485	1.17
82	SCn8c1	Vapuga-Kenchapur	26406	3.65
83	SCn8d1	Vapuga-Khandya-Kenchapur	8370	1.16
84	SCo4a1	Khandya-Timapur-Ainahalli	618	0.09
85	SCo4b1	Khandya-Jayapura-Timapur	834	0.12
86	SCo4c1	Khandya-Jayapura	7407	1.02
87	SCp2b1	Yerehalli-Kalhatti	1978	0.27
88	SCp3a1	Yerehalli-Timapur	813	0.11
89	SCq3a1	Yerehalli-Ainahalli	500	0.07
90	SCq3c1	Timapur-Yerehalli	653	0.09
91	SCv3a1	Timapur-Ainahalli-Bilikallahalli	4382	0.61
92	SCv3a2	Ainahalli-Timapur	2610	0.36
93	SCv3c1	Timapur-Ainahalli-Jayapura	2175	0.30
94	SCv5c1	Ainahalli-Jayapura	4933	0.68
95	SCw2a1	Kalhatti-Guldamari-Hosahalli	3627	0.50
96	SCw2c1	Hosahalli-Kalhatti	1866	0.26
97	SCw3b1	Guldamari-Hosahalli	2226	0.31
99	e		1393	0.19
100	f		2850	0.39
101	g		18893	2.61
	Total		723391	100.00

## 9. Salient Features:

- ❖ The survey area is dominated by very gently sloping lands (28.3 %). Very steep sloping land accounts for 26 % of the area followed by moderate steep to steep sloping is 15.3 %. The moderately sloping land covers 15.1 % followed by gently sloping area (11.1 %).
- ❖ Agriculture land occupies about 31.9 % followed by forest land 32.6 %, whereas plantation and open scrubs covers 16.7 % and 15.5 %, respectively.
- ❖ The area under very deep soils is 49.74 % followed by deep to very deep soils 34.81 %. About 6.43 % area is under shallow to moderately deep soils.
- ❖ Nearly 38.35 % area is affected by severe erosion followed by slight erosion (30.88 %) and only 27.57 % area is affected by moderate erosion.
- ❖ About 35.6 % area is potentially good for a variety of crops with suitable agronomic practices.
- ❖ Nearly 4.81 % and 5.18 % areas have severe to very severe soil limitations for sustained use under irrigation while 32.64 % area is not suitable for irrigation.
- ❖ Most of the area comes under Inceptisols followed by Entisols, Vertisols and Alfisols, respectively.